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Geo. C. Hussmann

see their letter of  
Dec 17-1907



**T. S. HUBBARD COMPANY**

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**Grape-Vine Specialists**

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**FREDONIA • NEW YORK**





# CAN WE SHIP LONG DISTANCES SAFELY?

VITICULTURE.

WINE-MAKING.



DEPARTMENT OF AGRICULTURE,  
VITICULTURAL DIVISION.

Ag-184a.

Postal address  
"The Viticulturist,  
Department of Agriculture  
Wellington."  
Telegraphic address  
"Viticulturist, Department  
Wellington."

Messrs T.S.Hubbard & Co.

Auckland, 15th March 1906.

Fredonia, N.Y.

Dear Sirs,

You will no doubt be pleased to learn that the cuttings of American vines which you consigned to me at the request of your Dept of Agriculture arrived here yesterday in splendid order and condition, and I would like to thank you and congratulate you on the careful selection and packing.

Yours very truly,

*R. Bragato*

Government Viticulturist.

This shipment was made December 16, 1905, and arrived at Auckland March 15, 1906,  
"in splendid condition," after being three months on the way





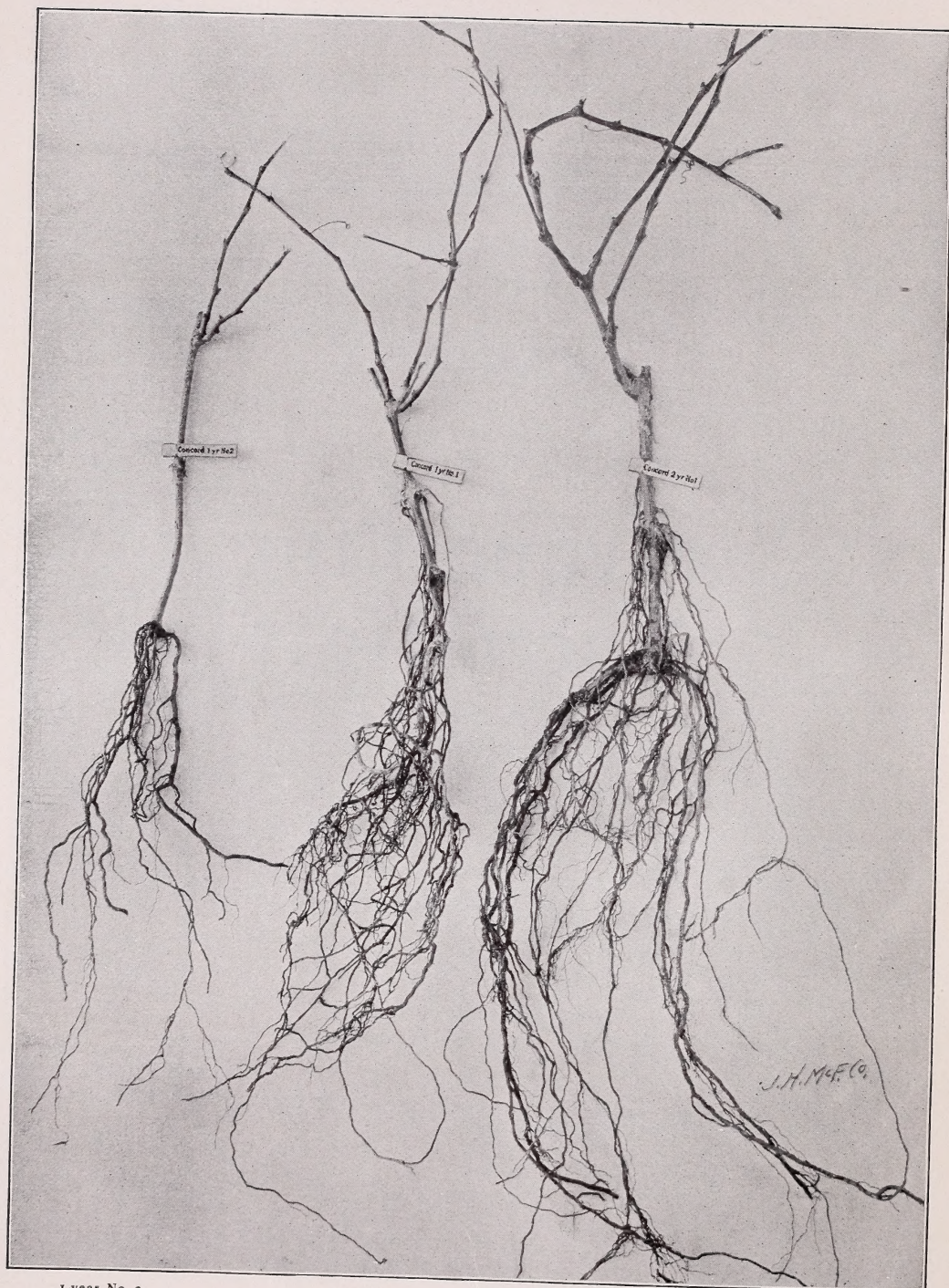
T. S. HUBBARD  
COMPANY

**Grape-Vine  
Specialists**

Established 1866 : Incorporated 1887

EDWARDS H. PRATT, President  
WILLIAM L. HART, Sec. and Treas.





1-year No. 2

1-year No. 1

2-year No. 1

ONE- AND TWO-YEAR GRAPE-VINES

Showing the character of stock sent out by T. S. Hubbard Company



# INTRODUCTORY



SINCE the last edition of our Catalogue was issued a few new varieties have been added to our lists, and further experience with others enables us to give more extended and accurate descriptions than were then possible.

We have taken great care to make our descriptions accurate and intelligible, and in the selection of varieties our customers may rely upon what we say as being the result of careful observation and study of the different varieties as they appear under cultivation here.

The information given on pages 5 to 14 in regard to planting, cultivating and pruning, also formulæ for spray mixtures and directions how and when to apply them, are sufficient to ensure success if carefully followed. We have been engaged in this business here since 1866, and annually grow in our nurseries *over one hundred acres in grape-vines and small fruits*, embracing many millions of plants.

THIS IMMENSE STOCK and the large force of trained assistants in our employ, together with our unequaled facilities for storing, packing and shipping, enable us to fill all orders, large or small, with equal accuracy and promptness.

OUR STANDARD OF GRADING is known throughout the country as the "Fredonia Standard," originated by us, and is synonymous with the highest excellence.

We aim always to keep on hand everything in our special line required by the planter or dealer, and to supply only the best stock at the lowest prices consistent with the quality offered. All who intend planting, and all dealers will find it to their advantage to submit their lists to us for prices.

We are grateful for the very liberal patronage received during the forty years we have been in business, and we respectfully solicit a continuance of the same.

Copyright 1906 by  
T. S. Hubbard Company

T. S. HUBBARD COMPANY,  
FREDONIA, N. Y.





## TO CUSTOMERS

OUR NURSERIES were established in 1866, and were the first in the United States to make the growing of Native American Grape-vines a specialty. In 1887 we incorporated under the laws of New York, with a paid-up capital of \$50,000, all of which is invested in our business. From the beginning our specialty has been the growing of Grape-vines, for which we have peculiar natural advantages of soil and climate here on the south shore of Lake Erie. Through our immense business, extending to every state in the Union and to many foreign countries, we have achieved a national reputation for accuracy in varieties, grading to the highest standard, promptness in filling orders, and for the largest stock and best selected list of varieties in this country.

ACCEPTANCE OF ORDERS.—It is mutually understood and agreed between this company and the purchaser that all orders accepted by the company are subject to the following conditions, viz :

(1) The company guarantees all stock to be in good healthy condition at the time and point of shipment.

(2) It shall not be held liable for loss of, or damage to stock in transit.

(3) The purchaser waives all claims and damages against this company resulting from failure to fill orders where delivery is prevented by the loss of the company's stock by fire or the elements before shipment.

(4) All orders shall be filled subject to the above conditions.

TIME OF SHIPMENT.—Our facilities for storing, packing and shipping are unsurpassed and enable us to fill all orders promptly from October 1 to June 1.

PACKING is done in the most thorough manner by experienced workmen. We make no charges for boxes, bales or delivering at our freight, express or post-office.

LABELING.—Everything we send out is plainly labeled with the best quality of printed or written labels, attached with brass or copper wire.

SUBSTITUTION OF VARIETIES.—We never substitute unless authorized to do so, but we suggest to our customers that, when ordering, they instruct us to substitute to the best of our judgment, in case any varieties ordered are exhausted.

GUARANTEE.—We warrant our stock true to name and of quality represented, with the express understanding and agreement that, should any prove not true to name, we will refund the money paid, or will replace it with other stock, but are not liable to damages other than herein named.

CORRESPONDENCE.—Write us for advice about the best varieties for your locality for table use, market or wine. If you want to cover an arbor, screen or any unsightly place, let us tell you what to plant. We can give you valuable information and gladly place our experience at your command.





## SUGGESTIONS TO PLANTERS

### Location and Exposure for Vineyards



THE best location for a vineyard is on soil naturally dry or artificially drained.

Grape-vines will not thrive on low, wet soils; they succeed best on high, dry ground having enough slope to carry off all surplus water. In northern latitudes, away from large bodies of fresh water, an eastern or southern exposure is preferable. Near a large river or lake, an exposure facing the water is usually most desirable.

A location giving a free circulation of air is very desirable, as in such locations there is less liability to mildew of foliage or rotting of the fruit,—to both of which diseases many varieties of grapes are subject.

Where the formation of the land will permit, it is best to plant the rows so that they will be parallel with the direction of the prevailing winds of summer and autumn, as this will permit the wind to blow unobstructedly between the rows, rather than against them.

### SOIL

Grapes do well on either gravelly, sandy or clayey soils, or on a combination of these. If planted on clay soil, it must be thoroughly underdrained to secure good results. Any good, dry soil of sufficient fertility to produce good farm crops is suitable for vineyard planting, if climate and exposure are favorable.

### PREPARATION OF SOIL

The only necessary preparation of the soil is to thoroughly plow and pulverize it to a depth of 12 to 18 inches. If in sod it should be summer-fallowed in August or September preceding planting, and again plowed at the time of planting. At this last plowing many of our best vineyardists plow the ground into lands equal in width to the distance apart the rows are to be planted, and plant the vines in the dead furrows. This saves a large amount of labor in digging the holes.

If the soil is naturally poor it should be given a liberal application of thoroughly rotted stable manure, which should be plowed in at the last plowing. If this cannot





be had, use raw bone meal, about 600 pounds per acre, with about 300 pounds muriate of potash, or two tons of good, unleached hard-wood ashes. It is not desirable to put manure or fertilizers of any kind in the hole when planting. The roots will quickly find their necessary food if it is in the soil.

## PLANTING

When the land has thus been thoroughly prepared and is ready to plant, stake out the ground in rows 8 to 10 feet apart, and 8 to 9 or 10 feet in the rows. The strong-growing varieties should be given more space than is necessary for the weaker-growing kinds.

Dig the holes about 2 feet wide and 15 inches deep, loosening the earth thoroughly in the bottom and throwing in two or three inches of surface soil.

When the land has been plowed in the manner indicated above, and the planting is done in the dead furrows, much less labor is required in digging the holes. All that is necessary is to remove the subsoil and fill in 2 or 3 inches of surface soil. Before the vines are taken to the field the tops should be cut back to within two or three buds of the previous year's growth, and the roots shortened to 10 or 12 inches in length. When planting, place 25 or 50 vines in a pail of water, taking one vine from the water as needed, thus avoiding the danger of injury to the roots by drying. Spread the roots horizontally in the bottom of the hole, in as nearly a natural position as possible, taking care not to have them cross each other. Cover with good fine surface soil 2 to 3 inches deep, then step into the hole and tread the earth down thoroughly with both feet. Then fill the hole full, treading it the second time, and finish with sufficient earth to cover the vine so that only one or two buds will be above the surface. The last filling should not be trodden, but be left loose to act as a mulch. This firming or treading the soil is very essential to success and should never be neglected. When planted in dead furrows most of the filling can be done with a plow, turning a back furrow against the vines, at the same time filling the dead furrow; but the treading and firming should be done as above.

If the tops of the vines are below the general surface of the ground, the hole may remain partly unfilled in the shape of a basin, to be gradually filled in as growth progresses.

Deep planting is recommended both for the North and South, as it ensures a tier of roots so far below the surface that there is little danger of injury by freezing at the North, or of burning or scalding when the soil becomes very hot on the surface, as it sometimes does at the South.

If the vines are to be trained to stakes instead of a trellis, as is sometimes done





in the South, they may be planted six feet apart each way; but the planting should be performed in the method described above, except that if a plow be used the furrows may be opened at right angles to each other, and the vines planted at the intersections. In garden or amateur planting, the method of digging the holes and firming the soil about the roots, as described above, should always be followed.

## CULTIVATION

During the first summer after planting, cultivate the soil thoroughly and hoe frequently about the vines, allowing no weeds to grow. Stirring the ground frequently, especially in dry weather, acts as a stimulant to growth, the finely pulverized soil forming the best kind of mulch. Do not attempt to grow farm crops of any kind between the rows; or, if you must grow something, let it be peas, beans or early potatoes. It is not necessary or advisable to tie up the young canes the first summer; let them lie on the ground. In the fall, after the foliage has fallen, cut the new growth back to two or three eyes, after which plow between the rows, turning the furrows together over the rows, and if at the North, where there is danger of injury by freezing, make a small mound of earth over each vine, first placing a small stake near it, so that it may be easily found and uncovered in the spring. By this simple method surface drainage is effected and the roots and tops thoroughly protected during the winter.

In the spring, as soon as the frost is out of the ground, remove the earth over the canes, and, when the new shoots are 2 or 3 inches long, rub off all but the two strongest, which should be left to form canes, to be tied to the trellis the following spring. If to be trained to stakes, but one cane should be left. Cultivation the second summer should be the same as the first. As growth progresses the canes may be trained along the rows on the ground, or, if the trellis is put up, they may be tied to the wires.

## CONSTRUCTION OF TRELLIS

The trellis may be put up early in the spring of the second year, though it is not necessary until the third year after planting. Some vineyardists set the posts and put on the lower wire the second spring, tying the canes to it as they grow large enough during the summer; but this is not essential.

Posts should be 8 to 9 feet long; the end posts about 5 to 6 inches in diameter at the small end, and the intermediate posts or stakes 3 to 5 inches. Holes about  $3\frac{1}{2}$  feet deep should be dug for the end posts, and the posts carefully set with a slight inclination outward from the row. The intermediate posts should be from 24 to 30

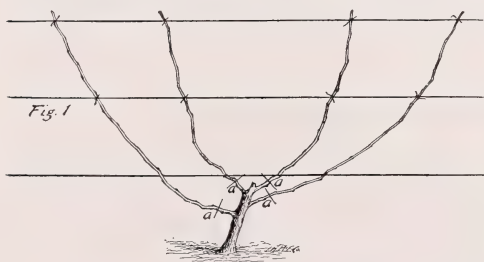


feet apart, according to the distance apart of the vines, allowing three vines between each two posts, and may be set in holes, or the lower ends may be sharpened and driven in holes made with a large iron bar. If the end posts are large enough no bracing is necessary; but, if braces are needed, they may be made of 3 x 4 or 4 x 4 scantling, 12 feet long, one end resting in a notch near the top of the post, the other against a stout stake driven firmly into the ground in a line with the row. The lower end of the brace should rest on a flat stone, to keep it off the ground and prevent rotting.

The lower wire should be 2½ to 3 feet from the ground, the upper wire near the top of the posts, and the middle one half way between. The three wires are sufficient for any of the ordinary methods of training. In putting up the wires they should be fastened to the end posts by winding them twice around, and twisting the end around the horizontal wire, and to the intermediate posts by 1-inch staples. The wires should be straightened, but not drawn very tight, as there will be less danger of breaking or pulling out of posts by contraction. The material required for one acre of vines set 8 x 10 feet will be about as follows; 32 large posts for ends of sixteen rows; 150 small posts for intermediate support; 600 pounds of No. 11 wire; 8 pounds 1-inch staples for fastening wires.

## PRUNING AND TRAINING

**THE RENEWAL SYSTEM.**—There are several good systems of pruning and training, each of which has its merits and advocates. A simple method, largely practiced in western New York and Ohio, is known as the renewal system. It consists simply in cutting out nearly all the old bearing wood every fall to within 2 or 3 inches of



the crown, leaving on strong vines three or four canes of the current year's growth, which have grown from spurs left for the purpose at the previous year's pruning. Cut each of these canes back to 3 or 4 feet in length, according to the strength of the vine, tying them fan-shaped to the wires the following spring, as shown in Fig. 1.

The letters *a a a* show where the old canes are cut off. The strongest canes growing from these spurs should be tied to the trellis during the summer, and all weak and useless shoots rubbed off. Suckers starting below the crown or from old wood do not make good bearing canes and should not be used.



# Grape Vine Specialists

THE HORIZONTAL ARM SYSTEM is also largely used, and is thus described: When the vine is set out it should be cut back to two or three eyes, as in Fig. 2.

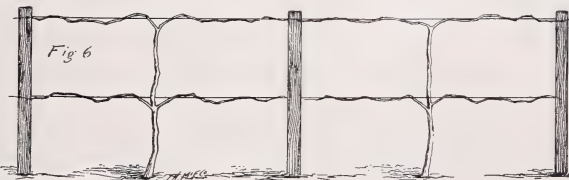
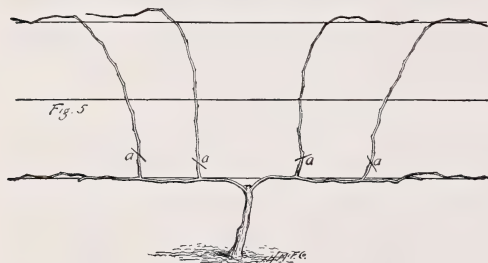
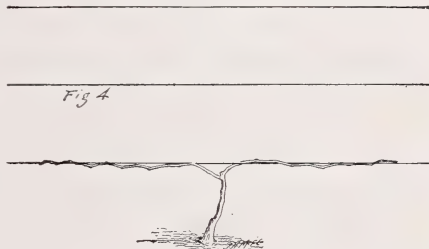
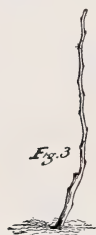
But one cane should be allowed to grow the first season; this may be tied to a stake or allowed to run on the ground. In the fall it should be cut back to 3 feet in length, as in Fig. 3. In the spring tie the top of this cane to the lower wire of the trellis, allowing only the two upper buds to grow and rubbing off all other eyes that start. Then two canes may be allowed to run on the lower wire, or tied to the upper wires if they have been put on the posts. In the fall cut these arms back to about 3 feet each, tying them the following spring to the lower wire, as in Fig. 4.

When the shoots get well started in the spring, rub off all on the under side and save only three of the upper ones on each arm, leaving them 10 to 12 inches apart. As these grow, train the two end shoots to the lower wire to complete the arms, and let the others grow over the wires, as in Fig. 5. In the fall cut these canes back at the cross-marks in Fig. 5.

The vine is now properly formed and the method of pruning is very simple and easy, being the same year after year, a new cane being grown each summer from the spur at *a* to replace the bearing cane which is to be cut off in the fall. If the vines have not made a strong growth the first year they should be cut back and treated the second year the same as the first.

THE KNIFFIN SYSTEM.—Another method, known as the Kniffin System, requires but two wires. A single cane is

grown to the upper wire. All buds are broken from this except four, two just below each wire. As these grow they are fastened to the wire, one in each direction, forming four arms, as in Fig. 6. In the fall these arms are cut back to four to eight buds, according to the strength of the vines. In the spring these arms are firmly tied to the wire, and the growth from





each bud allowed to hang down, as in Fig. 7. Future pruning consists in simply cutting back these canes to within one or two buds of the main arms, as shown by the cross marks in Fig. 7.

There are many modifications of this system. In the Trunk System two canes are grown, one to the lower, the other to the upper wire, and the same method of training and pruning is followed as above.

THE UMBRELLA SYSTEM, where the main cane is tied to each wire, and two arms with ten to fifteen buds each grown at the upper wire, and none at the lower. These arms are tied near their base to the upper wire, then dropped over and the ends tied to the lower wire, the arms extending about halfway between this and the next vine on each side. These arms are pruned each year the same as in Fig. 7.



THE OVERHEAD, OR ARBOR, SYSTEM is formed by spiking cross-bars three feet long to the tops of the posts six feet high. Three wires are fastened equidistant on these cross-bars and stretched the length of the rows. The trunk cane is grown without branches to the center wire, and six arms are trained, one in each direction on each wire.

THE POST OR STAKE SYSTEM.—In the South the Post or Stake System is very popular. A post or stake is set firmly in the ground at each vine. The cane renewal system of pruning as described at Fig. 1 is used. Only one cane is allowed to grow each year. A cane of the previous year's growth is wound tightly from right to left around the stake, the upper end being fastened with a wire nail or some other means, near the top of the stake, as in Fig. 8. This forms the bearing cane for the year, and at the same time a new cane is allowed to grow at will from the spur near the ground, to form the bearing cane for the following year.



The second year, no fruit should remain on the vines. The third year, strong vines with good culture ought to produce three or four pounds each; the following year they should produce a good crop. But vines of weaker growth will not do this. Care must be taken not to allow the vine to overbear, or it may be so injured as to never recover. Three or four tons per acre is a full average crop for the strongest growers, although good vineyards often produce without injury five or six tons per acre. The less the number of clusters this weight can be put into, the more satisfactory will be the money return from the crop. Hence it is well to thin the fruit, picking off the smallest and poorest clusters.





There is always a demand for strictly fine fruit at good prices.

We do not advise summer pruning further than pinching off or rubbing out weak and useless laterals and shoots. Leaves are the laboratories of the growing vines; in them is perfected the food which produces the growth of both wood and fruit. Severe summer pruning, removing a large amount of foliage, weakens the vine, reduces the size of the fruit, retards its ripening, and checks the growth of the root. Where more than one shoot start from a bud it is well to rub off the weaker one before it is more than 2 to 6 inches long. When particularly fine clusters are desired, the ends of the canes may be pinched off and stopped when growth has progressed to four or five leaves from the last cluster, and thereafter the ends of all laterals pinched off as soon as one or two leaves are formed. Superfluous suckers that start below the crown of the vine should be broken out before much growth has taken place.

## GARDEN OR AMATEUR PLANTING

What we have said in reference to vineyard planting and cultivation is equally applicable to garden cultivation, except that the pruning and training may take any form which suits the fancy or necessity of the planter. Vines will do well trained to stakes, on walls, trees, sides of buildings or arbors; but care should always be taken to prune thoroughly each year, so as to preserve an equilibrium between root and top, or the vines will overbear. In other words, no more bearing canes should be left than the roots can sustain in a vigorous growth of new shoots.

## DISEASES AND INSECT PESTS

Our space will not permit a description of these diseases and pests. For a full and exhaustive description we refer our customers to the bulletins issued by the Department of Agriculture, Botanical Division, Section of Vegetable Pathology, Washington, D. C.; or to the bulletins issued by Cornell University Agricultural Experiment Station, Ithaca, N. Y., either of which can be obtained free on application. We, however, append a Spray Calendar, prepared at the Cornell Experiment Station, which will be found very useful.

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### GOOD WORDS FROM SOME OF OUR CUSTOMERS

SHIREMENSTOWN, PA.

The grape-vines came O. K. We take great pleasure in ordering stock from you people, as there is no time lost in shipping. Thanks for your promptness in filling our order.

ELMHURST, ILL.

The vines came safely and I thank you for your prompt attention to my order. I have taken great pleasure in mentioning your firm to some of my friends.



## FORMULAS

### BORDEAUX MIXTURE

Copper sulphate . . . . .	6 pounds
Quicklime . . . . .	4 pounds
Water . . . . .	40 to 50 gallons

Dissolve the copper sulphate by putting it in a bag of coarse cloth and hanging this in a vessel holding at least four gallons, so that it is just covered by water. Use an earthen or *wooden vessel*. Slake the lime in an equal amount of water. Then mix the two and add enough water to make 40 gallons. The mixture is then ready for immediate use, but will keep indefinitely. For rots, molds, mildews, and all fungous diseases.

### AMMONIACAL COPPER CARBONATE

Copper carbonate . . . . .	1 ounce
Ammonia . . . . .	enough to dissolve the copper
Water . . . . .	9 gallons

The copper carbonate is best dissolved in large bottles, where it will keep indefinitely, and it should be diluted with water as required. For the same purposes as Bordeaux mixture.

### COPPER SULPHATE SOLUTION

Copper sulphate . . . . .	1 pound
Water . . . . .	15 gallons

Dissolve the copper sulphate in the water, when it is ready for use. *This should never be applied to the foliage. It must be used before the buds break.* For fungous diseases.

### PARIS GREEN

Paris green . . . . .	1 pound
Water . . . . .	200 to 300 gallons

Repeated applications will injure most foliage, unless lime is added. *Paris green and Bordeaux mixture can be applied together with perfect safety.* Use at the rate of 4 ounces of Paris green to 50 gallons of the mixture. The action of neither is weakened, and the Paris green loses all caustic properties. For insects which chew, beetles, worms, etc.

### HELLEBORE

Fresh white hellebore . . . . .	1 ounce
Water . . . . .	3 gallons

Apply when thoroughly mixed. This poison is not so energetic as the arsenites and may be used a short time before the fruit on the sprayed portions matures. For insects which chew.





## SPRAY CALENDAR

### GRAPE-VINES (Fungous Diseases, flea-beetle)

First application.—In spring when buds swell, copper sulphate solution. *Paris green for flea-beetle.*

Second application.—*When leaves are 1 to 1½ inches in diameter, Bordeaux. Paris green for larvæ or flea-beetle.*

Third application.—*When flowers have fallen, Bordeaux. Paris green as before.*

Fourth application.—*Ten to 14 days later, Bordeaux.*

Fifth application.—*Ten to 14 days later, if any disease appears, Bordeaux.*

Sixth application.—*Ten to 14 days, ammoniacal copper carbonate.*

### CURRENT (Mildew, worms)

First application.—*At first sight of worms, arsenites.*

Second application.—*Ten days later, hellebore. If leaves mildew, Bordeaux.*

Third application.—*If worms persist, hellebore.*

### GOOSEBERRY (Mildew, worms)

First application.—*When leaves expand, Bordeaux. For worms, as above.*

Second application.—*Ten to 14 days later, Bordeaux. For worms, as above.*

Third application.—*Ten to 14 days later, ammoniacal copper carbonate. For worms, as above.*

Fourth application.—*Ten to 14 days later, repeat third.*

### RASPBERRY, BLACKBERRY, DEWBERRY (Anthracnose, rust)

First application.—*Before buds break, copper sulphate solution. Cut out badly diseased canes.*

Second application.—*During summer, if rust appears on leaves, Bordeaux.*

Third application.—*Repeat second, if necessary. (Orange or red rust is treated best by destroying entirely the affected plants.)*

### STRAWBERRY (Rust)

First application.—*As first fruits are setting, Bordeaux.*

Second application.—*As first fruits ripen, ammoniacal copper carbonate.*

Third application.—*After last fruits are harvested, Bordeaux.*

Fourth application.—*Repeat third, if foliage rusts.*

Fifth application.—*Repeat third, if necessary. (Young plants not in bearing may be treated throughout the fruiting season.)*



In this calendar it will be seen that some applications are italicized. These are the ones found *most important*. The number of applications given in each case has particular reference to localities in which fungous and insect enemies are most abundant. If your crops are not troubled when some applications are advised, it is, perhaps, unnecessary to make them; but it should be remembered that the use of Bordeaux mixture for fungous diseases should be considered a preventive, rather than a remedy after the disease has appeared. In all cases success is dependent upon the exercise of proper judgment in making applications. Know the enemy to be destroyed; know the remedies that are most effective; and, finally, apply them at the proper season. Be *prompt, thorough and persistent*. Knowledge and good judgment are more necessary to success than any definite rules which can be laid down.

## COMPARISONS OF VARIETIES

On pages 46 and 47 will be found a carefully prepared table showing the comparative merits of 62 varieties of grapes, arranged on a definite scale of points.

## DESCRIPTION OF VARIETIES

In our descriptions of varieties we have not given date of ripening. It would be impossible to do so, except for a very limited section of country, the date varying with the latitude and longitude of the location, and often to a lesser degree with the soil and exposure of the vineyard. We have therefore chosen some of the leading well-known sorts for comparison and given the time of ripening as compared with one of those ripening about the same time in this locality. Thus, we use Moore's Early as indicating one of the earliest to ripen, Concord or Delaware mid-season and Catawba late. By bearing this in mind our readers will be able to fix the time of ripening of most varieties we describe.

It should also be borne in mind that variations in soil and climate, and other conditions of environment, often cause great variations in the characteristics of all plants, a rule to which grapes are no exception.

In selecting varieties for planting, it is well to plant largely of those which are known to succeed in the locality, and the new or lesser known varieties more sparingly, until they have been tested and found to be desirable.

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### GOOD WORDS FROM SOME OF OUR CUSTOMERS

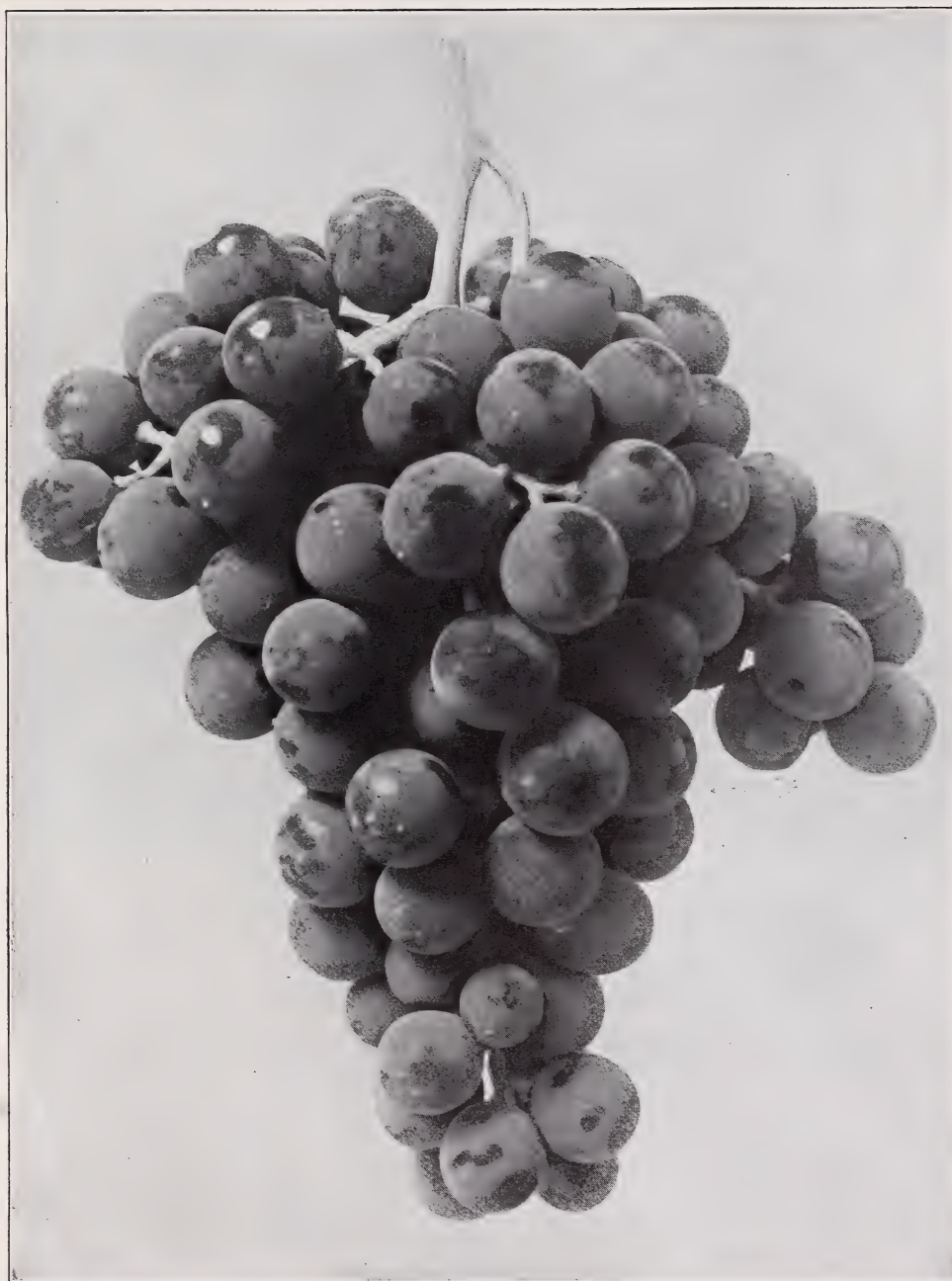
CHICAGO, ILL.

My vines made a big growth. (This party planted 13,500 1-year No. 1 vines last spring.)

WHITEFIELD, ILL.

I bought a few hundred grape-vines from you 10 years ago and they gave good satisfaction.





BRIGHTON (See page 18)



DELAWARE (See page 21)

# GRAPES

## DESCRIPTION OF VARIETIES

**AGAWAM** (Rogers' Hybrid No. 15). Red or maroon. Bunch usually loose, shouldered; berries large; skin thick; flesh pulpy, meaty, juicy, of a rich, peculiar aromatic flavor; ripens about with Concord; a good keeper. Vine a strong, rank grower, hardy and productive; should be pruned, leaving long canes. One of the best of Rogers' hybrids.

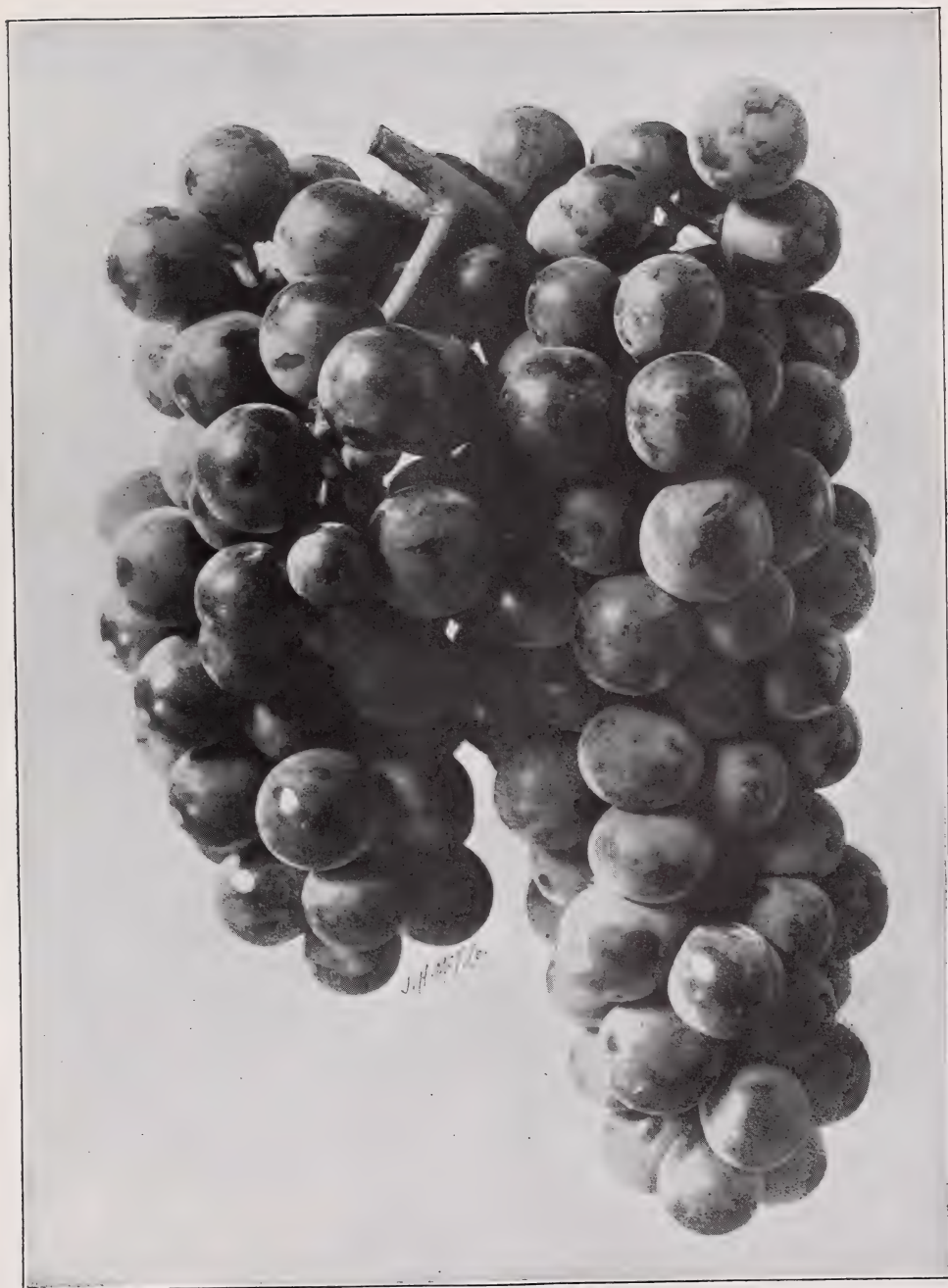
**AMINIA** (Rogers' No. 39). Black. Bunch and berry large, skin thick, flesh tender; very early, ripening about the same time as Wor-

den; quality good. Vine a strong grower, healthy, hardy and productive.

**BACCHUS**. Black. Bunch medium; berry small, round, juicy, sprightly. A seedling of Clinton, which it resembles but is of much better quality. A valuable wine Grape.

**BARRY** (Rogers' Hybrid No. 43). Black. Bunch very large, compact, shouldered; berries large, flesh tender, sweet, good; vine vigorous, hardy and healthy. Ripens about with Concord.





CAMPBELL'S EARLY (See page 18)

# T. S. Hubbard Company

**BRIGHTON.** Red. Bunch medium to large, long, compact, shouldered; berries medium; skin thin; flesh tender, sweet, with scarcely any pulp; quality best. Vine a vigorous grower, healthy, hardy and productive; one of the best early red Grapes. The flowers have reflexed stamens and do not always fertilize fully unless planted with Concord, Worden, Martha or other varieties which blossom at the same time. Ripens with Delaware.

**BRILLIANT.** Red. Bunch large, long, sometimes shouldered; berry medium to large; skin thin, tough, brilliant in color; quality good to best. Vine a strong grower, hardy, healthy and productive. Ripens about same time as Delaware.

**CAMPBELL'S EARLY.** Black. Originated by the late George W. Campbell by crossing Moore's Early with pollen of a seedling resulting from a cross of Muscat Hamburg with Belvidere. Bunch large, shouldered, moderately compact; berry large, nearly

round, slightly elongated, covered with profuse light blue bloom; adheres strongly to stem; skin thick, tough and does not crack; flesh somewhat pulpy, sweet, with slight aroma, not foxy; quality about same as Concord. It colors very early but requires some weeks after coloring to fully ripen; a fine shipping Grape. Vine a good grower.

**CATAWBA.** Dark red when fully ripe. Bunch large, moderately compact, shouldered; berries medium to large, skin thick, tough; flesh somewhat pulpy, with rich vinous flavor, of best quality for both table and wine. Vine a good grower, hardy, with healthy foliage; very productive and profitable where it succeeds and matures well. Ripens too late for high latitudes.

**CHAMPION, or TALMAN.** Black. Bunch medium to large, compact; berries medium, adhering to stem better than Hartford, which it resembles; skin thick; flesh sweet, juicy, somewhat pulpy, with foxy flavor; vine a very rank, vigorous grower; hardy, very healthy and productive. Ripens about with or a little before Moore's Early. Quality poor, but desirable for early market.

**CHARLTON.** Red. Bunch medium to large, compact, sometimes shouldered; berries medium to large; skin thin but firm enough to insure good keeping and carrying qualities; flesh tender, rich, sweet, vinous, separating readily from the seeds, which are few in number. A promising new variety, being a cross between Brighton and Mills. Vine a good grower, with stout, heavy foliage.

**CLINTON.** Black. Bunch small to medium, compact, long, not usually shouldered; berries small; skin thin, but tough; flesh juicy, spicy, with little pulp, quite acid; is used principally for wine. Vine very vigorous, healthy, hardy, productive. Requires plenty of room, and spur-pruning on old canes for best results.

**CONCORD.** Black. Early. Decidedly the most popular Grape in America, and deservedly so. Bunch large, shouldered, compact; berries large, covered with a rich bloom;



CATAWBA





CONCORD (See page 18)



DIAMOND (See page 21)

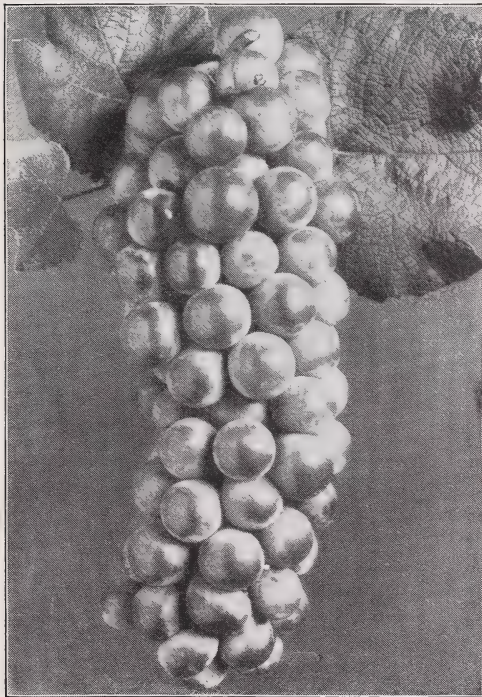


# Grape Vine Specialists

skin tender, but sufficiently firm to carry well to distant markets; flesh juicy, sweet, pulpy, tender; vine a strong grower, very hardy, healthy and productive. For general cultivation the most reliable and profitable variety.

**COTTAGE.** Black. A seedling of Concord, and very similar in growth, size and quality, but ripens a few days earlier, about with Moore's Early. Variable as to productiveness, and sometimes drops its berries.

**CYNTHIANA.** A black wine Grape. Bunch medium, long, shouldered, compact; berries small; vine a vigorous grower and healthy; fruit ripens late. Highly esteemed in the South and Southwest, where it is considered one of the best red wine Grapes; strongly resembles Norton.



EMPIRE STATE (See page 22)

**DELAWARE.** Red. Bunch small, compact, sometimes shouldered; berries small; skin thin, but firm; flesh juicy, very sweet and refreshing, of best quality for both table and wine; ripens with Concord or a little before. Vine hardy, productive, a moderate grower; requires rich soil and good culture. Is regarded by many as the best American Grape, all things considered. It should be in every garden and vineyard.

**DIAMOND.** White. Bunch large, compact, shouldered; berries large, round; skin thin, but tough; flesh tender, juicy, with but little pulp. Vine a good grower, with thick, healthy foliage; hardy and productive; of fine quality. Ripens a little before Concord.

**DIANA.** Red. Bunch medium, very compact; berries medium, skin thick and very tough; flesh sweet, tender, vinous, with a peculiar musky flavor; of good quality for both table and wine. Vine vigorous and productive.

**DRACUT AMBER.** Red. Very early; bunch and berry large; flesh quite foxy; vine hardy, very vigorous and productive. Valuable in high latitudes where better varieties will not ripen.

**DUCHESS.** White. Bunch medium to large, long, compact, shouldered; berries medium, quality best; ripens a little later than Concord; vine a good grower and productive. Its quality is so fine that considerable trouble in growing it will pay. Keeps a long time after being gathered.

**EARLY OHIO.** Black. Bunch medium to large, compact, often shouldered; berries medium, quality fair; ripens about with Moore's Early or a little before under favorable conditions. Vine healthy, hardy and productive. A sure and regular bearer.

**EARLY VICTOR.** Black. Bunch medium, compact; berry medium, flesh tender and sweet; vine a strong grower, very healthy, hardy and productive. Ripens about with Concord; in foliage, growth and cluster resembles Telegraph. Quality only fair.



**EATON.** Black. Similar in foliage to Concord. In growth, health, hardness of vine, and in every other respect its equal, while in size of bunch and berry it is much larger and more attractive. Leaf large, thick, leathery, covered on the under side with a thick, brownish yellow down. Bunch very large, compact, double shouldered; berries very large, many one inch in diameter, round, black, covered with a heavy blue bloom, adheres firmly to the stem; skin thin, but tough; pulp tender, separating freely from the seeds and dissolving easily in the mouth; very juicy. Ripens with Concord or a little earlier.

**ELVIRA.** White. Bunch and berry medium, very compact; vine a vigorous, strong, healthy grower and very productive, often growing four or five clusters on a single cane; very hardy. Ripens late, about with Catawba. A valuable white wine Grape.

**EMPIRE STATE.** White. Bunch medium, long, compact; berries medium, quality best; vine a strong grower, hardy, with large, healthy foliage and short-jointed canes which ripen early. Superior in quality to Niagara, but not usually so productive.

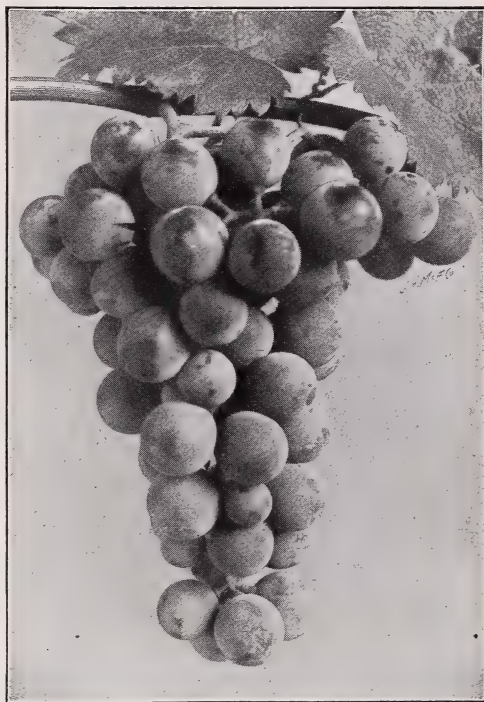
**ETTA.** White. A seedling of Elvira, but larger in berry and of better quality.

**EUMELAN.** Black. Bunch medium, shouldered, compact; berries medium, round, adhering firmly to the stem; flesh tender, melting, rich and vinous; ripens a little before Concord. Vine vigorous, very short-jointed, hardy and productive. A superior red wine Grape.

**GÆRTNER** (Rogers' No. 14). Red. Bunch and berry medium to large; skin thin and of a beautiful bright red color; flesh sweet, rich, aromatic; vine healthy and productive. One of the best and most showy of the red Grapes.

**GOETHE** (Rogers' No. 1). Bunch usually large, shouldered, compact; berries large, oval, yellowish green, tinged with red on one side, amber-colored when fully ripe; skin thin but firm; flesh sweet, juicy, with high aromatic

flavor. Vine strong and very productive. One of the best keepers and of best quality for both table and wine. Esteemed highly both West and South; rather late for northern localities, and yet ripens about with Catawba. It is quite good if not fully ripe.



GOETHE (ROGERS' No. 1)

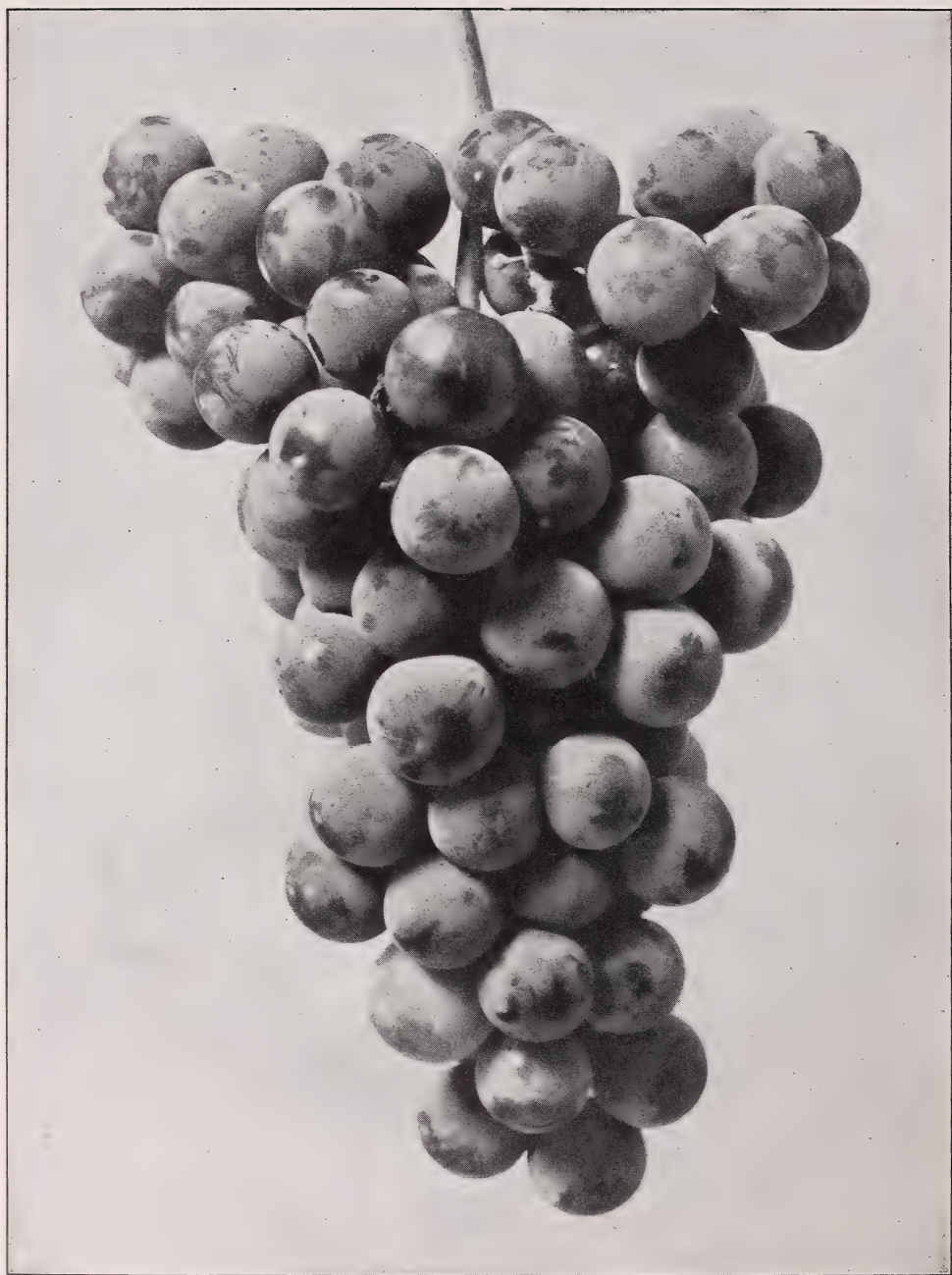
**GREEN'S EARLY.** A new white Grape. A chance seedling of Concord type, discovered in Portland, Chautauqua county, New York, about 1887. Bunch and berry medium to large; quality fine; ripens very early, before Moore's Early. A good shipping Grape.

**GREEN MOUNTAIN** (same as Winchell). White. Bunch medium to large, shouldered; berries medium, greenish white; skin thin, tough; pulp tender, sweet, with few seeds; of





EATON (See page 22)



LINDLEY (See page 26)

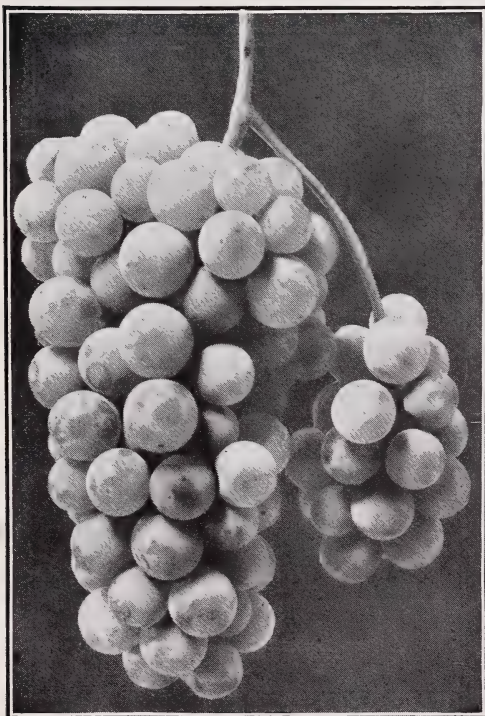


# Grape Vine Specialists

excellent quality, free from foxiness; very early. Vine vigorous, healthy, hardy and very productive. A fine Grape, identical in every way with Winchell.

**HARTFORD.** Black. Bunch large, shouldered; berries large, inclined to drop from bunch if allowed to hang until fully ripe; flesh sweet, pulpy, somewhat foxy; vine hardy, vigorous, healthy, productive. Ripens four to six days before Concord.

**HAYES, FRANCIS B.** White, with yellowish tinge when fully ripe; bunch and berry medium; skin thin, flesh tender, juicy, of medium quality; vine a fair grower, hardy; foliage healthy. Ripens about with Hartford.



GREEN MOUNTAIN (See page 22)

**HERBERT** (Rogers' No. 44). Black. Bunch and berry large; flesh sweet, rich and sprightly; vine a good grower, hardy, productive. Early and of fine quality for market.

**HERMAN JAEGER.** Dark purple, nearly black. Bunch very large, compact, shouldered; berry medium, quality very good; ripens about with Concord. Vine very vigorous, hardy, healthy and productive. One of Munson's seedlings.

**IONA.** Pale red. Bunch large, long, shouldered, rather loose; berries medium, skin thin, firm; flesh tender, with rich vinous flavor; of very best quality for table or wine. Vine only a moderate grower, requiring rich soil and high culture; short-jointed and inclined to overbear, requiring short pruning and thinning of fruit. Ripens a little before Catawba.

**ISABELLA.** Black. Bunch large, shouldered, compact; berries large, oval, of fair quality; vine vigorous, but not very hardy; ripens late and irregularly.

**IVES.** Black. Bunch long, medium to large, compact; berries medium, skin thick and tough; flesh sweet, pulpy, somewhat foxy; colors early, but does not fully mature until several weeks later. When ripe it is a good market variety, and is highly esteemed for red wine. Vine hardy, very vigorous and healthy, generally succeeding well; is quite exempt from rot. A good shipper.

**JANESVILLE.** A very hardy black Grape. Bunch medium, very compact; berry medium; skin thick; flesh pulpy, acid, of medium quality; very strong, rank grower, and very productive. Desirable only in severe climates where better varieties will not succeed. Colors very early, but improves by hanging some weeks longer on the vines.

**JEFFERSON.** Bright red. Bunch large, double-shouldered; berry medium to large; skin thick; flesh tender, crisp, juicy, sweet, slightly aromatic, vinous. It is of very best quality, a fine keeper and good market Grape. Ripens with Catawba or a little later.



**JESSICA.** White. Cluster and berry quite small; very sweet and pleasant; vine a fair grower, hardy and productive. Ripens ten days or two weeks before Concord. Recommended only for garden culture.

**LADY.** White. Bunch medium, compact; berries large; skin thin; vine only a moderate grower, but perfectly healthy and hardy, with Concord foliage; moderately productive, good, though not of best quality. Ripens very early; should be planted on rich land and given high culture.

**LADY WASHINGTON.** A late white Grape. Bunch very large, compact, double-shouldered; berries large, yellowish green, with thin white bloom; flesh tender, sweet, juicy; vine vigorous, with large foliage; ripens rather late for our latitude, but succeeds well in many localities at the South and Southwest.

**LINDLEY** (Rogers' No. 9). Red. Bunch medium, long, not usually shouldered; berries large, flesh tender, sweet, with high aromatic flavor, of best quality; a good keeper, with firm, tough skin; ripens with Delaware. Vine healthy, vigorous and hardy. One of the best of Rogers' Hybrids. It succeeds well in some parts of the South. Requires long pruning and not too rich soil.

**LUTIE.** Dark red. Bunch and berry medium to large; skin tough and thick; flesh pulpy, sweet and quite foxy; quality only fair; vine hardy, vigorous and productive. It sells well as an early red Grape, ripening about with Moore's Early.

**MARTHA.** White, sometimes turning pale yellow when fully ripe. Bunch medium, compact, shouldered; berries medium, skin thin, tender, flesh very sweet; quality good as Concord. Vine healthy and hardy, similar to Concord in appearance and habit, although not quite so strong a grower. Ripens with Concord.

**MASSASOIT** (Rogers' No. 3). Red. Bunch large, compact, shouldered; berries large, skin thin, very tender; flesh tender, sweet,

without pulp, delicious, with agreeable aroma; very early. Vine vigorous, healthy, hardy and moderately productive. One of the earliest of the Rogers' varieties.

**McPIKE.** New. Said to be a seedling of Worden, which it resembles in color, quality and time of ripening. Bunch large; berries very large, an inch or more in diameter; too large and soft for distant markets.

**MERRIMAC** (Rogers' No. 19). Black. Bunch very large, shouldered, compact; berries large, flesh sweet, tender, good. Vine a good grower, hardy, productive. It strongly resembles Wilder (Rogers' No. 4).

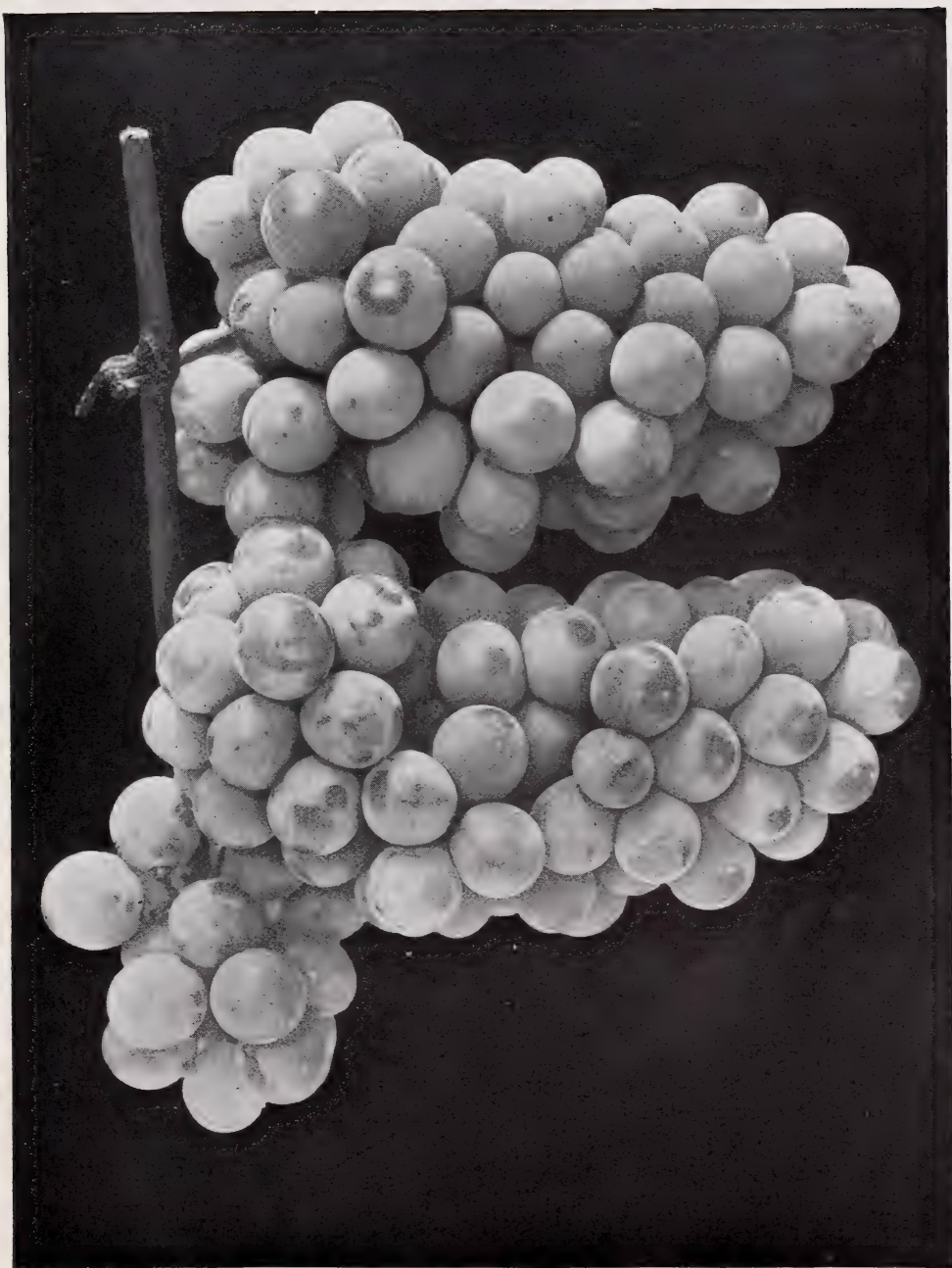
**MISSOURI REISLING.** Greenish white, becoming pale red when fully ripe. Bunch medium, compact; berry medium, flesh tender, juicy and sweet; makes a white wine of high quality. Vine hardy, healthy and very productive. Ripens a little later than the Catawba.

**MOORE'S EARLY.** Black. Bunch rarely shouldered, not quite as large as Concord; berries larger and very much like it in flavor and quality. Vine a moderate grower, very healthy and hardy; foliage thick, leathery, somewhat resembling Concord, except on the under side, which is covered with a yellowish brown down. Produces a fair and, with high cultivation, a heavy crop. Ripens so early as to be nearly out of market before Concord is ripe and is, therefore, a very popular early market variety. Succeeds best on rich soil.

**MOYER.** A red Grape that originated in Canada. It resembles Delaware in foliage, habit of growth, appearance and quality of fruit, but is more vigorous in growth. The clusters, however, are quite small and sometimes imperfect; berries a little larger than Delaware. Ripens about with Moore's Early, and is chiefly valuable on account of its earliness.

**NIAGARA.** White. Bunch very large and handsome, often shouldered, compact; berries large, round; skin thin, tough, does not crack, and carries well; has not much pulp when fully ripe; melting, sweet, with a flavor





NIAGARA (See page 26)



and aroma peculiarly its own, and agreeable to most tastes; ripens with Concord, sometimes a little earlier. Vine very vigorous and productive, succeeding well both North and South; is very largely planted by vineyardists.

**NORTON** (Norton's Virginia). Black. Bunch long, compact, shouldered; berries small; flesh tender, melting, without pulp, and vinous. Ripens too late for many northern localities, but is very highly esteemed at the South and Southwest, and considered one of the best and most reliable red wine Grapes. Vine a healthy, vigorous grower, hardy and productive.

**PERKINS.** Pale red when fully ripe; bunch medium to large, shouldered, compact; berries medium, skin thick; flesh sweet, juicy, but foxy; ripens early, before Concord. Vine very vigorous, hardy, healthy and productive.

✕ **POCKLINGTON.** Pale green, usually with tinge of golden yellow where exposed to the sun; bunch large, very compact; berries very large, covered with a beautiful white bloom; flesh juicy, sweet, with considerable pulp. Foliage large, leathery, healthy. A seedling of Concord, ripening soon after it and considered its equal in quality. Vine a moderately good grower, but very healthy and very hardy, its buds withstanding severe cold even better than Concord. It produces a heavy crop of fine, showy clusters, and on account of its fine appearance and many good qualities is yearly increasing in popularity.

**POUGHKEEPSIE RED.** An early red Grape of superior quality, somewhat resembling Delaware, but with longer and more shouldered clusters; vine a weak grower and not very healthy. Has sometimes fruited finely with us, but we would recommend it only for amateur culture.

**PRENTISS.** Yellowish green, often with a rosy tint on side next the sun; bunch medium to large; compact, not shouldered; berries medium to large; skin thin, but very firm; flesh tender, sweet, melting, with very little pulp, juicy, with a delightful aroma.

**SALEM.** Dark red. Bunch large, compact, shouldered; berries large, round; skin thick and firm; flesh very sweet, tender, with a rich aromatic flavor. Vine vigorous, hardy, healthy; ripens earlier than Concord when not permitted to overbear. Is a splendid keeper, good shipper and of best quality for both table and wine.

✕ **TELEGRAPH.** Black. Bunch medium to large, very compact, sometimes shouldered; berries medium; flesh sweet, juicy, with some pulp; quality fair; ripens early, before Concord. Vine healthy, hardy, very vigorous and productive.

**ULSTER PROLIFIC.** A red Grape of best quality. Bunch medium, not shouldered, compact; berries medium to large; skin thick and tough; ripens soon after Concord and keeps well. Vine a fair grower, moderately hardy, healthy and quite productive.

**VERGENNES.** A dark red Grape from Vermont. Bunch medium to large, not often shouldered, compact; berries large; skin very thick and firm; flesh sweet, juicy, with some pulp; quality best. Vine a vigorous grower, hardy, healthy and productive; inclined to overbear and should be thinned; ripens with Concord. An excellent shipper and keeper, and a profitable market variety.

**WILDER** (Rogers' No. 4). Black. Bunch large, shouldered; berries large, skin thick and firm; flesh sweet, tender, with sprightly, pleasant flavor; a good keeper; ripens early or about with Concord. Vine a moderate grower, hardy, healthy and productive; popular for market.

**WOODRUFF RED.** A red Grape that originated in Michigan. Bunch medium to large, short, compact; berry large; skin thick, of a beautiful bright red color, very handsome and attractive, making it a profitable market variety. Vine very vigorous, hardy, healthy and unusually productive. The fruit is of good quality, though somewhat foxy. Ripens about with Concord.





POCKLINGTON (See page 28)



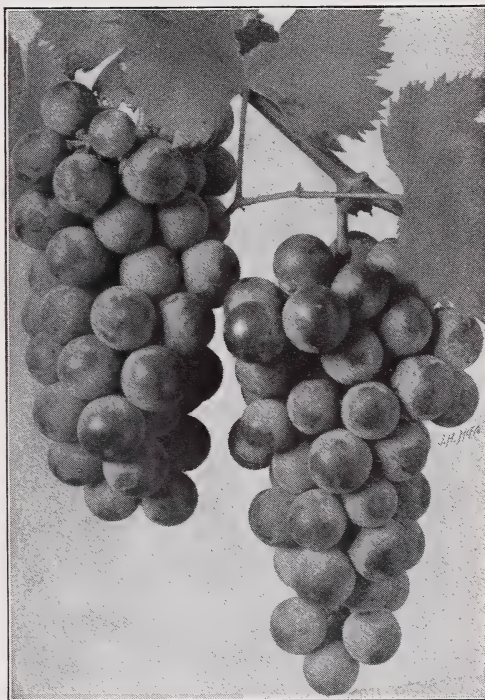
WORDEN (See page 31)



# Grape Vine Specialists

**WORDEN.** Black. Bunch large, sometimes shouldered, compact; berries very large, skin thin. Superior to the Concord in the following points: It is better in quality, has a larger berry, a more compact and handsome cluster and ripens five to ten days earlier. It fully equals Concord in vigor, health and productiveness. In berry it is about the size of Moore's Early, but of better quality, more vigorous and productive, and ripens but little later. We recommend it strongly. It is perhaps not quite so good a shipper as Concord, but ships satisfactorily from western New York to the principal cities east and west.

✓ **WYOMING RED.** A very early red Grape. Bunch small, compact and handsome; berry small to medium; skin bright red, thick, firm; fruit sweet, somewhat foxy, but agreeable to most tastes. Vine a very strong grower, very hardy and healthy; foliage small, thick and leathery. Its chief points of merit are its health and earliness. Should be pruned with long canes and given plenty of room, to secure good clusters and a good crop. When pruned close it is apt to set imperfect clusters.



WOODRUFF RED (See page 28)

## TESTIMONIALS

EATON RAPIDS, MICH.

The currants and grape-vines came all right. Got them home and opened them for my neighbors. Grape-vines were pronounced the finest ever seen, and the currant plants are certainly fine also. Thank you for your promptness.

CAMDEN STATION, KY.

I herewith enclose amount of invoice and thank you very cordially for the fine vines received. The missing box of vines turned up at last, after being on the road just two months, and proved to be all right. I do not think that I will lose a vine, and I certainly congratulate you for good packing.

CHENEY, WASH.

Enclosed please find post-office order for \$10 due you for vines and plants. They arrived in fine shape. They were well packed and arrived as fresh as when dug. It does not seem to make any difference how far you ship your goods, they always come fresh and nice. You may look for a large order this fall.

LANSDOWNE, PA.

Received grape-vines yesterday O. K. Must say they are very fine specimens and should produce good results; if they do not, it won't be the fault of the vines. I thank you for your promptness

MARSHALLTOWN, IOWA.

The 470 vines came all right and were very satisfactory. They were the best lot of vines I have ever seen.



MOORE'S EARLY (See page 26)





## Varieties Recommended Only for Amateur Planting or for Special Purposes

The following list includes new and not sufficiently tested varieties, and those which are valuable only for special purposes, or in certain localities. Also many which are of little or no value, but which we describe in order that our customers may know what not to plant, as well as what to plant.

**Amber Queen.** Red. Bunch and berry medium to large, of fine quality; vine unhealthy, clusters often imperfect. We do not recommend it.

**Berckmans.** Red. Bunch and berry medium; quality very good; ripens about with Worden. A good amateur variety.

**Black Eagle.** Black. Bunch large, long; berries medium to large; skin thin; flesh tender with little pulp; of good quality. Ripens too late for our climate.

**Black Spanish.** Said to be identical with Le Noir.

**Carman.** Black. Bunch large, conical, compact; berry large; skin thin, but tough; pulp meaty, of fine quality; vine vigorous; ripens about with Catawba. One of Munson's seedlings.

**Centennial.** Light amber or white. Bunch large, long, shouldered; berry medium; quality quite good. Ripens a little later than Concord. Vine a fair grower. Of little value.

**Colerain.** White. Bunch and berry medium; skin thin and tender; flesh sweet, of good quality; ripens a little before Concord. Vine a good grower and productive.

**Cunningham.** Black. Bunch medium, long, compact; berries small, juicy, vinous; very late. A southern wine Grape.

**Delawba.** Light amber. Bunch medium, moderately compact; berries uneven in size, ranging from small to large, but all ripening at same time; quality good. Vine vigorous and productive. New. Said to make a fine white wine.

**Esther.** White. Bunch and berry large, early, of very good quality; vine only a fairly good grower.

**Flowers.** Black. Very late. A variety of the Scuppernong type; said to make a fine red wine.

**Geneva.** White. Bunch medium to large, loose, berry large; pulp tender, sweet; skin thick, tough; a good keeper, of fine quality. Ripens about a week after Concord. Vine hardy.

**Herbemont.** Black. Bunch very large, shouldered, compact; berries small; ripens too late for the North, but is a valuable wine Grape in the South.

**Hermann.** Black. Bunch long, narrow; berries small, round, ripening very late. Vine vigorous, very productive. A seedling of Norton, and a valuable wine Grape in the southern states.

**Highland.** Black. Bunch very large, shouldered; berries large, flesh juicy; very good. It ripens too late for the North and the vine is not sufficiently hardy or healthy.

**Jacques.** Same as Le Noir, Black Spanish, El Paso and Burgundy.

**Jewell.** Black. Bunch medium, sometimes shouldered, compact; berry medium, skin thin, tough; pulp tender, of good quality. Quite similar to Early Victor in general characteristics. Vine very weak.

**Le Noir.** Black. Bunch medium to large, shouldered; berries small, round; flesh tender, juicy, sweet, vinous, without pulp; vine very vigorous, but does not come into bearing early. A valuable southern wine Grape, very rich in coloring matter.



**Louisiana.** Supposed to be identical with Rulander.

**Mills.** Black. Bunch very large, long, shouldered, compact; berry above medium, round; skin thick; flesh firm, meaty, with rich, sprightly flavor; berries adhere very firmly to stem. Ripens a little later than Concord and is a good keeper. Vine not very vigorous nor healthy.

**Montefiore.** Black, with a delicate blue bloom. Bunch and berry small to medium; skin thin, but firm; flesh melting, sweet, vinous, with delicious aroma; ripens a few days after Concord. Vine productive, moderately vigorous, very healthy and hardy. A red wine Grape that has proved very satisfactory in many localities.

**Munson's Seedlings.** T. V. Munson, of Texas, has produced many thousands of seedlings, from which he has selected 36 varieties that he considers worthy of further trial. Nineteen of these are crosses of the Wild Post-Oak or Summer Grape of Texas with other varieties. Many of these seedlings will not be valuable at the North, and it is too early yet to say how many will prove permanently valuable anywhere. We have described four of them. Mr. Munson deserves great credit for his efforts to improve our native species.

**Rebecca.** White. Bunch medium, compact; berry medium, of fine quality; vine a weak grower and very tender.

**Rogers' Hybrid No. 33.** Black. Bunch large, shouldered; berry very large, of better quality than Wilder. Vine vigorous, healthy and productive.

**Rommel (Munson's).** White. Bunch medium; berry medium to large; skin thin; quality sprightly, good. Vine hardy and productive.

**Rulander.** Black. Bunch small, compact, shouldered; berries small, without pulp, sweet, good. Vine vigorous, healthy, but too tender for the North. A southern wine Grape.

**Scuppernong.** Exclusively a southern Grape. This and the subvarieties of the same type are not hardy north of the thirty-fifth degree of latitude.

**Triumph.** Pale green to golden yellow. Bunch very large, shouldered; berry large; skin thin; flesh sweet, meaty, having but little pulp. A fine table Grape at the South, where it is quite popular; ripens too late for the North.

**Victoria.** White. Bunch large, shouldered; berries large, skin thick; flesh sweet, juicy, somewhat pulpy, quality good, about the same as Lady. Vine a good grower, hardy and healthy, with thick heavy Concord foliage. The best of Miner's seedlings.

## REJECTED VARIETIES

Most of the following, of which we give brief descriptions, we have tested and have decided that they ought to be entirely discarded. They are either worthless or else so nearly similar to other and better varieties as not to entitle them to further notice or dissemination. We do not recommend any of them.

**Amber.** Light amber-color when fully ripe; bunch and berry medium; skin thin, flesh tender, sweet; late, unproductive.

**ARNOLD'S HYBRIDS.** All of Arnold's seedlings are of the Clinton type, are not particularly desirable and have not proved a success with us.

**No. 1 (Othello).** Black. Skin thin, flesh solid, with little pulp, bunch long, loose; berry medium; ripens late, quality fair. Vine a vigorous grower.

**No. 2 (Cornucopia).** Black. Somewhat similar to No. 16.

**No. 5 (Autuchon).** White. Bunch long, not shouldered; berry medium.

**No. 8 (Brant).** Black. Bunch and berry somewhat resemble Clinton.

**No. 16 (Canada).** Black. Bunch and berry larger than No. 8; late.

**August Giant.** A seedling of Black Hamburg. Bunch large; berry very large. Vine a strong grower, but very subject to mildew, and the fruit rots badly; not productive.

**Beauty.** Amber, with lilac bloom. Bunch and berry about like Delaware; ripens a week after Concord. Vine vigorous, healthy.





**Black Taylor.** Black. Bunch medium, long, loose; berry medium, quality good; ripens about with Concord. Vine vigorous and healthy; somewhat similar to Montefiore.

**Black Defiance.** Black. Bunch and berry large; ripens with Catawba.

**Cambridge.** Black. So nearly resembling Concord in every respect as to be considered identical with it.

✕ **Clevener.** Black. Bunch and berry medium to small; flesh rather pulpy, acid, of fair quality; used for coloring wines. Vine very vigorous, hardy and healthy. Suited only for wine purposes.

**Concord Chasselas.** Light amber-color, transparent. Of fine quality, but has not proved healthy.

**Creveling.** Black. Bunch loose, straggling; berries medium to large, sweet and juicy; quality good; not valuable an account of its very imperfect clusters.

**Croton.** White. A Grape of fine quality, but the vine is very tender and a weak grower.

**Early Dawn.** Black. An early Grape of fine quality. Vine not very healthy.

**Eldorado.** White. Bunch and berry large; not very healthy nor hardy. Ripens with Hartford.

**Elsinburg.** Black. Bunch medium, shouldered, loose; berries small, of fine quality, early. Vine moderately vigorous, subject to mildew.

**Eva.** White. Seedling of Concord, quite similar to Martha.

**Faith.** White. Bunch medium, shouldered; berries small, sweet, early. Vine vigorous, healthy.

**Florence.** Black. Bunch small, imperfect; berries medium; quality resembles Hartford; vine hardy, vigorous. Very early.

✕ **Grein's Golden.** White. Bunch medium, shouldered, loose; berry medium; drops from stem and rots badly. Vine vigorous, resembling Missouri Reisling. Late.

**Golden Drop.** Yellowish white. Bunch small, loose; berry small, round; quality very

best; ripens with Catawba. Vine vigorous, healthy, with small foliage resembling Clinton.

**Israella.** Black. Bunch long, very compact; berry large, pulpy, of fair quality. A weak grower and unhealthy.

**Irving.** White. Bunch and berry large, ripening about a week after Concord. Vine only moderately vigorous or healthy.

✕ **Marion.** Black. Bunch and berry medium; colors early, but does not ripen until late; adheres firmly to the stem. Vine vigorous, hardy, productive. Valuable for a dark red wine.

**Maxatawny.** White. Bunch and berry medium, quality fine; late. Vine a moderate grower, not very productive.

**MINER'S SEEDLINGS.** Originated by the late T. B. Miner, of New Jersey. We describe eleven of the best known:

**Antoinette.** White. Bunch medium; berry large. Similar to Lady.

**Augusta.** White. Bunch and berry medium; quality fair.

**Belinda.** White. Bunch, berry and quality much like Lady.

**Boadicea.** White. Bunch and berry small.

**Carlotta.** White. Bunch and berry large.

**Eugenia.** White. Quite similar to Augusta.

**Harrison.** Black. Resembles Rockingham, but two weeks later.

**Ida.** White. Bunch and berry large, quality good; productive.

**Lexington.** Black. Bunch and berry size of Concord; unproductive.

**Linden.** Black. Cluster small, compact, short.

**Rockingham.** Black. Bunch and berry medium.

**Nectar (Black Delaware).** Black. Bunch and berry medium; early. Vine only a fairly good grower; fine quality, but very unproductive.

**New Haven.** Black. Resembles Concord, but with smaller foliage and clusters; quality about the same; ripens about ten days earlier.



**Noah.** White. Bunch and berry medium; skin thin, firm, transparent, not very juicy; pulp firm. Resembles Elvira, but is not so desirable. Ripens late.

**Naomi.** Yellowish green, transparent. Bunch large, shouldered, compact; quality fine. Vine vigorous but unhealthy and subject to mildew.

**Northern Muscadine.** Dark amber-color. Bunch and berry medium; flesh pulpy and quite foxy. Vine very vigorous, hardy and productive. Ripens with Moore's Early.

**Norfolk.** Red. Bunch and berry above medium; quality good, ripening about with Concord. Vine moderately vigorous and healthy.

**Norwood.** Black. Foliage unhealthy and growth unsatisfactory; ripens with Concord.

**Oneida.** Red. Bunch medium, loose; berry medium; quality good. Vine a fair grower.

**Oriental.** Black. In bunch and berry similar to the Rogers varieties; quality good. Vine moderately vigorous. Ripens with Concord.

**Pearl.** Pale yellow. Bunch small, shouldered, compact; berries medium, juicy, sweet, good; vine vigorous, hardy.

**Peter Wylie.** White. Bunch and berry above medium; meaty, of good quality, with a delicate muscat flavor. Said to be valuable at the South.

#### ROGERS' HYBRIDS:—

**No. 2.** Black. Bunch and berry large, ripening very late. Vine vigorous, with foliage like Wilder; not very productive.

**No. 5.** Red. Somewhat similar to Lindley, but with smaller bunches, and not so strong a grower.

**No. 8.** Black. Resembles Wilder, ripening at the same time; clusters small.

**No. 11.** Black. Bunch smaller, shorter, and more imperfect than Wilder; ripens about the same time.

**No. 13.** Red. Bunch and berry small; not satisfactory with us.

**No. 17.** Black. In foliage, growth and time of ripening resembles No. 39.

**No. 24.** Red. Bunch poor, berry large; not satisfactory.

**No. 28 (Requa).** Red. Very similar to Lindley, but does not succeed so well.

**No. 32.** Red. Bunch very large, berry large; quality fair; ripens quite late. Vine not very vigorous, but hardy and very productive.

**No. 34.** Black. Bunch and berry large; foliage and growth resemble No. 39. Ripens with Concord.

**No. 36.** Black. Very similar to No. 33.

**No. 41 (Essex).** Black. Bunch medium to large, berry very large; ripens late.

**Rockwood.** Black. Seedling of Concord, raised by E. W. Bull.

**Rochester.** Red. Bunch large, shouldered; berry medium; quality best. Vine a weak, poor grower, with unhealthy foliage; ripens with Hartford.

**Secretary.** Black. Bunch and berry large; quality fine. Subject to mildew and unhealthy.

**Sanasqua.** Black. Bunch large, long, very compact; berry medium to large; quality best. Vine moderately vigorous, but has not proved satisfactory.

**Transparent.** White, mottled, transparent. Bunch long, loose; berry small, round, late. Vine vigorous and healthy.

**Walter.** Red. Bunch and berry similar to Delaware, but larger; very early and of best quality. Vine a weak, unhealthy grower, lacking constitution.

**White Ann Arbor.** White. Bunch and berry large; quality poor; vine hardy and healthy, but fruit drops badly from stem.

**Wilding.** White. Bunch and berry medium; skin very thin and tender; very fine quality. Unfit for market purposes.





## SMALL FRUITS



**I**N connection with our specialty, Grape-vines, we also grow a large stock of small-fruit plants of such varieties as have been tried and found valuable for profit in field culture, or desirable for the garden. We do not aim to fill our lists with all the novelties annually introduced, many of which prove worthless, or to be no improvement on existing varieties, but add yearly all such as stand the test of trial and comparison with older varieties and prove of sufficient merit to warrant us in offering them to our customers. We are testing many varieties not named in this Catalogue but which will be added when they have proved their claim to be worthy of general dissemination; we have tried to present only sorts of substantial merit.

## CURRENTS

Plant in rows 6 feet apart and 4 feet apart in the rows, or, if to be cultivated both ways, 5 feet apart each way.

Before planting, the roots should be pruned as described for grape-vines, and, in planting, the same care should be taken to firm the earth about the roots.

After planting, cut back the tops about one-half the previous year's growth. In market plantations the bush form of growing the plants is found most profitable. For the first five or six years after setting, a few inches of the new wood, or current year's growth, should be cut off each fall. If this is not done the result will be a tall, barren stem with but few fruit-buds. No plant will better repay generous treatment and high cultivation than the currant. Two or three forkfuls of good stable manure around each bush every fall is desirable. If this cannot be readily obtained, an experienced grower recommends the following special fertilizer:

Pure ground bone . . . . .	600 pounds
Muriate of potash . . . . .	250 "
Nitrate of soda . . . . .	150 "

Apply the above, thoroughly mixed, to each acre every spring, sowing it broadcast and cultivating it in.

For treatment of worms and mildew of foliage, see Spray Calendar.



## RED CURRANTS

**CHERRY.** Bush vigorous, stocky and compact; cluster rather short, with short stems; fruit averages large; color fine, bright red; berry thin-skinned, juicy and fine-flavored. One of the most productive of the large Currants.

**FAY** (Fay's Prolific). Bush vigorous but not quite so strong a grower as Cherry; cluster medium to long, with rather long stems; color darker than Cherry; berry averages large; juicy and less acid than Cherry.

**FILLER** (Milton). Originated near Milton, Ulster county, N. Y. Bush vigorous, strong, upright; cluster long; berry medium to large, quite dark red. Very productive.

**LONG-BUNCHEH HOLLAND.** Bush very vigorous and hardy; cluster long; berry medium to large; quality good. One of the best late varieties.

**LONDON RED** (London Market). Bush vigorous, upright; clusters short; fruit medium to large; color dark red, with sprightly acid flavor. Very productive.

**MOORE'S RUBY.** Bush upright, strong-growing; cluster medium to large; berries above medium, juicy, sweet and good; of a clear ruby color.

**NORTH STAR.** The bush is very vigorous, upright, somewhat spreading; clusters medium length; berries vary from small to medium or above; dark red; comparatively mild acid. Hardy and productive.

**PERFECTION.** Bush vigorous, hardy and very productive; berries larger than Cherry or Fay, with larger clusters; color bright red; rich, mild sub-acid; plenty of pulp with few seeds. A new variety originated by C. G. Hooker, of Rochester, N. Y., and awarded the \$50 Gold Barry Medal of the Western New York Horticultural Society. It is a cross between Fay's Prolific and White Grape.

**POMONA.** Very vigorous and hardy; clusters medium length; berries medium size,

clear, bright red, almost transparent, very sweet, of fine quality. Ripens early and remains in good condition a long time.

**PRINCE ALBERT.** Bush vigorous, very upright in habit; clusters short to medium; berries medium to large, pale red; skin thin; juicy, of high flavor. Immensely productive. A late variety, highly valued at canneries because of its good size, thin skin and large amount of highly flavored juice.

**RED CROSS.** A strong-growing variety. Cluster long; berry medium to large, bright red; quality good to best. Very productive.



PERFECTION





**RED DUTCH.** An old and well-known standard variety. Bush a strong, tall, upright grower; clusters average about three inches long; berries medium in size, dark red; sprightly subacid flavor. Productive.

**VERSAILLES** (La Versailles). Bush a vigorous, somewhat spreading grower. Very similar to Cherry in habit of growth and character of fruit.

**VICTORIA** (Raby Castle). Bush a very strong, upright grower; foliage rather pale bronze-green. Clusters above medium length; berries medium or above, bright red, with mild acid pulp. One of the most valuable late varieties. Very productive.

**WILDER** (President Wilder). Bush upright, vigorous; clusters above medium length; berries large to very large, averaging large; bright red; excellent, with a mild subacid flavor. Ripens early and remains bright and firm until very late. Because of its exceedingly vigorous growth, great productiveness, high quality and remaining good so long after ripening, we recommend this as one of the best red currants, both for table and market.

## WHITE VARIETIES

**WHITE DUTCH.** Bush an upright grower, vigorous and very productive. Clusters two to three inches long; berries of medium size, are translucent, and a little darker than White Grape; quality excellent. Ripens early.

**WHITE GRAPE.** Bush vigorous, somewhat spreading, productive; clusters long; berries large to very large, averaging large; of very attractive color, mild flavor and good quality. A good table variety.

**WHITE IMPERIAL.** Bush vigorous and very productive. Clusters large; berries very large, sweet and most delicious. This is the best of the White Currants.

## BLACK CURRANTS

**BLACK CHAMPION.** Bush vigorous and productive; fruit averages above medium; pulp nearly sweet, mild-flavored. A desirable variety for general culture.

**BLACK NAPLES.** Bush very vigorous, upright, moderately productive; fruit varies from small to large, averaging above medium; pulp acid, with strong flavor. An old and well-known variety.

**BLACK VICTORIA.** Bush a strong vigorous grower, very productive; fruit very large, of fine flavor. A new variety from England.

**LEE'S PROLIFIC.** Bush rather short, dwarfish, moderately vigorous, productive; fruit varies from small to very large, acid.

**PRINCE OF WALES.** Bush vigorous and very productive. The fruit varies from small to large, is mild flavored and nearly sweet when fully ripe.

## GOOSEBERRIES

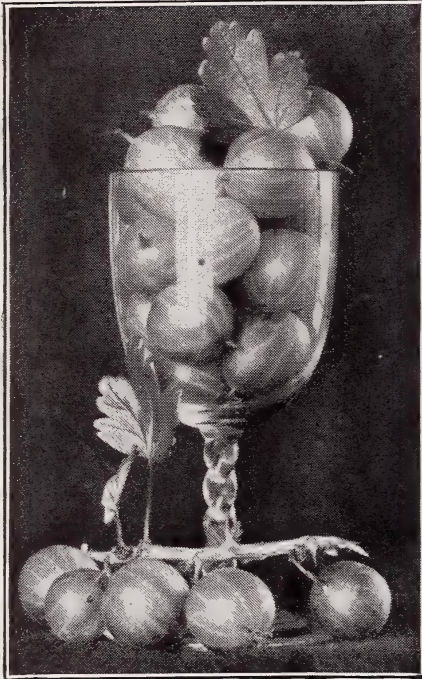
Plant in the same manner as described for currants, and give the same annual liberal application of manure or fertilizer. The American varieties will need close pruning every year, the English varieties little or no pruning. The New York Agricultural Experiment Station recommends the following fungicide as a preventive of mildew:

Potassium sulphide (liver of sulphur) . . . . .	1 ounce
Water . . . . .	1 gallon

By using hot water, the sulphide will dissolve more readily.



Commence spraying as soon as the leaves begin to unfold and continue at intervals of 18 to 20 days, except in case of heavy rains, when it is necessary to spray more often. Commercial liver of sulphur costs but 15 or 20 cents per pound and can be obtained at almost any drug store.



COLUMBUS

## AMERICAN VARIETIES

**CHAUTAUQUA.** Bush very vigorous, stout, upright; foliage large, glossy, dark green. Fruit large, smooth, veined, translucent; skin thick; quality very sweet and high-flavored.

**COLUMBUS.** Bush a strong, robust grower; foliage large and glossy. Fruit large, oval; skin greenish yellow, smooth; of the highest quality.

**DOWNING.** Bush vigorous and very productive. Fruit medium to large, skin whitish green; flesh soft, juicy. Excellent for family use and very profitable for market.

**GOLDEN PROLIFIC.** Bush a good grower, hardy and productive. Fruit large, golden yellow; excellent.

**HOUGHTON.** Bush a vigorous grower, with rather slender branches; very productive. Fruit medium size, pale red, tender and good. An old, reliable variety.

**PEARL.** Bush moderately vigorous; immensely productive. Fruit about the size of Downing, of fine quality.

**RED JACKET (Josselyn).** Bush vigorous, upright and productive. Fruit varies in size from medium to above medium. Color pale red. Resembles Houghton but the fruit is larger.

**SMITH'S (Smith's Improved).** Bush moderately vigorous and exceedingly productive. Fruit large, pale greenish yellow, moderately firm and sweet; fine for table use.

**TRIUMPH.** Bush a good grower, hardy and very productive. Fruit large, golden yellow; of good quality.

## ENGLISH VARIETIES

**CROWN BOB.** Large, roundish oval, red, hairy, of fine quality.

**INDUSTRY.** This is without doubt the most thoroughly tested and successful of the English varieties. The bush is strong, upright, immensely productive. Berries of the largest size, dark red, of excellent quality.

**KEEPSAKE.** Fruit very large, straw-colored, of excellent flavor. Very productive, and one of the earliest to ripen.

**LANCASHIRE LAD.** Fruit smooth, bright red, very large, of fine quality. Bush a strong grower and productive.

**WHITESMITH.** Large, roundish oval, yellowish white, nearly smooth, of first quality.





## RASPBERRIES



**R**ASPBERRIES succeed well on any good land suitable for corn or wheat, but amply repay high cultivation. Well-rotted stable manure or ground bone are the best fertilizers.

Red and yellow varieties should be planted in rows 6 feet apart and 3 feet apart in the rows; black- and purple-cap varieties 7 feet apart and 3 feet in the rows. This will require about 2,400 plants to the acre for the former and 2,100 for the latter. Close planting is not advisable for any of the sorts.

Cut out all old wood as soon as the canes have done bearing—to give more vigor to the young canes. Blackcap varieties should be planted only in the spring. For treatment of diseases, see Spray Calendar.

### RED VARIETIES

**CUTHBERT.** Deep, rich crimson, large to very large, very firm. One of the very best market varieties. Season medium to late. A remarkably strong, hardy and productive variety.

**HERBERT.** Bright red, large to very large, somewhat oblong, moderately firm, juicy, fine in flavor and quality. Very vigorous, hardy and productive. Originated in Ottawa, Canada.

**LOUDON.** Dark crimson, large, firm, of good quality. The best mid-season market variety. Vigorous, hardy and productive.

**MARLBORO.** Light crimson, large, very firm, and of good quality. A fine early market variety; vigorous and productive.

**MILLER.** Bright red, large, round, of fine quality. One of the firmest and best shippers for early market. Vigorous, hardy and immensely productive.

### BLACK AND PURPLE

**COLUMBIAN.** Dull purple, very large, moderately firm. A good market berry and one of the best for canning. Bush remarkably strong and wonderfully productive.

**CUMBERLAND.** Black. Very large; very similar to Gregg in quality and firmness; in hardiness and productiveness it is unexcelled. One of the best mid-season market varieties.

**GREGG.** Black. Has been for many years the leading market berry. Large, firm, of good quality, ripening late. Exceedingly productive.

**HAYMAKER.** Purple, not so dark as Columbian, or Shaffer, but larger, firmer and later, thus prolonging the season. Very productive.

**KANSAS.** Black. Berries as large as Gregg and of better color; very little bloom; of best quality; ripens early. Very strong grower and immensely productive.

**PALMER.** Black. Berries of medium size. Very early and productive.

**SHAFFER.** Very large, dull purple, unattractive in appearance and rather soft, but of fine quality for the table and one of the best for canning.

### YELLOW

**GOLDEN QUEEN.** Large, golden yellow, of fine quality. Very hardy and productive; succeeds almost everywhere, and is a most desirable berry, bringing good prices in the market.



## BLACKBERRIES



**BLACKBERRIES** require the same treatment as raspberries and should be planted the same distance apart. For treatment of diseases, see Spray Calendar.

**AGAWAM.** Medium size, jet black, sweet and tender to the core. One of the best for home use or home market. Very hardy, healthy and productive, and one of the most satisfactory to grow.

**ICEBERG.** Originated by Luther Burbank, who has produced so many new fruits of world-wide fame and value. A snowy white Blackberry, as large as Lawton, early, sweet, tender and melting throughout. Very productive but not very hardy. Canes should be

**ANCIENT BRITON.** Of medium size and best quality; immensely productive. Extremely hardy, enduring severe winters without injury. A reliable market variety.

**BLOWERS.** A new variety originated at Westfield, N. Y. Large, glossy, black; fine quality; ripens early and continues a long time in season. A very strong grower, and said by the introducer to be very hardy. The fruit resembles Wilson's Early in appearance.

**ELDORADO.** Large, coal-black, sweet, melting, without hard core. Vigorous, hardy and very productive. Fine market variety.

**EARLY HARVEST.** Medium; glossy black, of excellent quality; ripens very early and ships well; compact, dwarf grower. Very productive, but not very hardy.

**ERIE.** Very large, round, of fine quality when fully ripe; ripens a little later than Early Harvest. Vigorous and productive.



ELDORADO



# Grape Vine Specialists

laid down and covered during the winter, in the northern states.

**KITTATINNY.** Large, long, glossy black, of most excellent quality. A popular variety, but requires protection in severe climates.

**LAWTON (New Rochelle).** Medium to large, sweet when fully ripe, of good flavor and quality. Canes stout, nearly hardy, productive.

**MERSEREAU.** Medium to large, juicy, mildly sweet when fully ripe, sprightly, good flavor and quality; vigorous, hardy and productive.

**MINNEWASKI.** Large, roundish to slightly elongated, sweet and juicy when fully ripe, fine flavor and quality. Canes vigorous, quite hardy and productive.

**RATHBUN.** Very large, jet black, firm enough to ship and handle well, of best quality. Forms a compact bush 4 to 5 feet high. Very productive and hardy; will root from tips of canes.

**STONE'S HARDY.** Medium size, juicy, sweet, of fine flavor and good quality. Canes upright, rather slender. Very hardy and productive.

**SNYDER.** Of medium size and fair quality when well ripened. The most popular Blackberry in this state. Ripens early; is very productive and very hardy.

**TAYLOR.** Very hardy, as productive as Snyder; the long, thimble-like fruit is borne in immense clusters of the very best quality. Ripens about two weeks later than Snyder.

**WACHUSETT.** Medium size, roundish, juicy, sweet, good flavor and quality. Canes very hardy, moderately vigorous, with small scattering prickles.



SNYDER BLACKBERRY

**WARD.** Large, long, jet black, tender, melting, without core, best quality. A new variety with strong, sturdy canes. Hardy and very productive.

**WILSON.** Large, very early, sweet and delicious; ripens evenly and holds its color well. A strong grower and very productive, but requires winter protection.

**WILSON, JR.** A seedling of the above, supposed to be a cross with the once popular Dorchester. Very much like Wilson.

## DEWBERRY

**LUCRETIA.** A low-growing trailing blackberry. Large; soft, sweet, of very good quality, with no hard core. The plant is quite hardy and, under favorable conditions, very productive. Earlier than the upright varieties.

DECATUR, MICH.

I wish to thank you for the way you filled my order for 32,000 two-year No. 1 vines this spring. There was not only a full count but the vines arrived in splendid shape, showing your care in packing them. The vines have done splendidly, and no one has ever seen such growth the first summer. I trusted entirely to your honor in this order, as you know I had no experience whatever about grapevines. It is certainly a pleasure to do business with a house that acts as fairly and honestly with its customers as you do.



## STRAWBERRIES

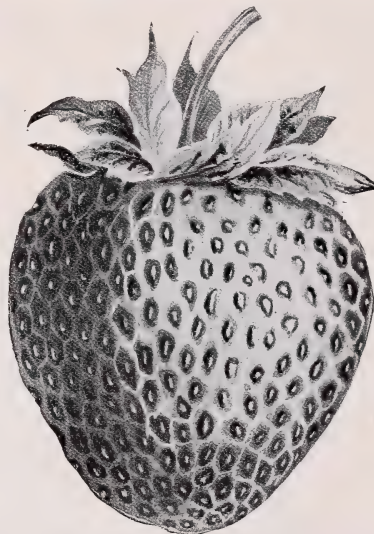


**S**TRAWBERRIES do well on almost any soil, provided it is well drained, deeply worked and well manured. Thoroughly rotted stable manure is the ideal fertilizer, but, where this is not available, nitrate of soda, dried blood, bone meal, muriate of potash, kainit and wood ashes are all excellent. For field culture set in rows 3 to 4 feet apart, and 15 to 18 inches apart in the rows; in the garden the rows may be nearer together. Early spring is the best time for setting plants.

In our Price-list, varieties with imperfect or pistillate flowers are marked "P," those with perfect or staminate flowers are marked "S." Where pistillate varieties are planted, every third or fourth row should be of some staminate variety that blossoms at the same time, in order to produce plenty of pollen to fertilize the imperfect flowers of the pistillate varieties. For treatment of diseases, see Spray Calendar.

There is a very wide variation in the growth and productiveness of most varieties under varying conditions of soil and climate, making it quite impossible to name any which will prove successful everywhere.

We have, therefore, thought best not to describe any, but to advise our customers to plant such varieties as have proved locally successful or to leave the selection to us.



### Number of Plants Required to Plant One Acre

#### GRAPE-VINES

8 by 6 feet apart . . . . .	907
8 by 7 feet apart . . . . .	777
8 by 8 feet apart . . . . .	680
9 by 8 feet apart . . . . .	605
9 by 9 feet apart . . . . .	538
9 by 10 feet apart . . . . .	484
10 by 8 feet apart . . . . .	545
10 by 10 feet apart . . . . .	435

#### CURRENTS AND GOOSEBERRIES

6 by 3 feet apart . . . . .	2,420
6 by 4 feet apart . . . . .	1,815

#### RASPBERRIES AND BLACKBERRIES

6 by 3 feet apart . . . . .	2,420
7 by 3 feet apart . . . . .	2,075

#### STRAWBERRIES

3 by 1 1/2 feet apart . . . . .	9,658
3 1/2 by 1 1/2 feet apart . . . . .	8,260





We frequently have inquiries for vines to cover an arbor or pergola, or to be used as a screen to cover some unsightly object, where an abundance of beautiful foliage is required with little regard to quality of fruit. For such purposes we recommend some of the Riparia Hybrids, such as Elvira, Missouri Riesling or Etta, which have exceedingly hardy, healthy, short-jointed canes with elegant, large foliage, free from mildew in the most unfavorable seasons, retaining its beauty until very late in the fall. When the grounds were being laid out for the Columbian Exposition at Chicago, we furnished many thousands of these varieties to be used for such purposes.



## TABLE OF COMPARATIVE MERITS

In order to more accurately show the comparative merits of different varieties on leading points, the following table has been prepared. On each point as indicated by the respective headings, ten different grades are given, "1" indicating the highest and most favorable grade, and "10" the lowest grade, the intermediate numbers indicating the approach to highest or lowest. An interrogation point (?) indicates, not sufficiently tested to fully determine the exact grade. The following explanations will make the matter more clear:

SIZE OF BERRY: 1 largest, 10 smallest berry.

SIZE OF CLUSTER: 1 heaviest cluster, 10 lightest and smallest.

QUALITY FOR TABLE: 1 best quality, 10 poorest quality.

EARLIEST IN RIPENING: 1 fully ripe earliest, 10 latest.

VARIETY.	Size of Berry.	Size of Cluster.	Quality for Table Use.	Earliness in Ripening.	Hardness of Bud and Cane.	Health of Foliage.	Vigor of Growth.	Productiveness.	Shipping Quality.	Keeping Quality.	Compactness of Clusters.
Agawam . . . . .	3	4	3	6	4	8	2	5	1	1	7
Aminia (Rogers' No. 39) . . . . .	3	3	2	3	4	4	3	4	2	3	3
Amber Queen . . . . .	5	8	2	5	5	8	8	9	5	4	5
Barry . . . . .	3	3	2	4	4	4	5	4	2	2	3
Black Eagle . . . . .	4	4	5	9	4	5	8	7	2	4	4
Brighton . . . . .	5	3	1	3	4	8	3	6	9	6	5
Brilliant . . . . .	5	3	1	5	4	8	8	6	4	4	2
Campbell's Early . . . . .	2	3	5	5	?	2	3	3	1	2	3
Catawba . . . . .	4	4	2	8	3	4	4	3	1	1	5
Champion . . . . .	4	4	9	2	2	2	1	1	3	10	3
Concord . . . . .	3	3	4	5	2	1	1	1	3	5	5
Clinton . . . . .	7	7	9	8	1	1	1	4	2	3	2
Cynthiana . . . . .	9	6	7	9	2	1	1	4	2	4	3
Delaware . . . . .	7	7	1	5	3	9	7	3	3	3	2
Diamond . . . . .	4	4	3	3	3	2	2	3	7	6	2
Diana . . . . .	5	6	2	7	4	4	4	5	1	1	1
Duchess . . . . .	6	6	1	8	5	6	6	7	4	2	3
Early Ohio . . . . .	5	6	6	2	3	3	5	5	3	7	5
Early Victor . . . . .	6	7	7	3	3	2	2	4	6	6	2
Eaton . . . . .	1	2	6	5	2	2	4	6	6	8	5
Elvira . . . . .	5	6	9	8	2	1	1	3	3	4	1
Empire . . . . .	6	5	2	6	4	4	6	6	4	2	4
Eumelan . . . . .	5	6	1	7	7	5	9	7	2	3	3
Green's Early . . . . .	4	6	3	1	3	3	5	3	3	7	6
Goethe . . . . .	2	5	6	8	7	6	8	7	3	4	8
Green Mountain . . . . .	8	6	3	1	2	3	3	3	5	5	5
Hartford . . . . .	4	6	6	3	3	3	3	3	5	7	5
Herbert (Rogers' No. 44) . . . . .	3	4	3	5	4	4	4	4	2	2	4
Herman Yeager . . . . .	6	2	4	5	3	1	1	2	3	3	3
Iona . . . . .	4	4	1	8	7	7	8	6	3	3	7
Isabella . . . . .	4	5	3	8	7	6	3	3	1	2	3





# COMPARATIVE MERITS, continued.

HARDINESS OF CANE AND BUD: 1 hardest, 10 most easily injured by severe cold.

HEALTH OF FOLIAGE: 1 most healthy, 10 most subject to mildew and diseases of foliage.

VIGOR OF GROWTH: 1 most vigorous grower, 10 poorest grower.

PRODUCTIVENESS: 1 produces greatest number pounds good fruit without injury to vine, 10 smallest product, with same stipulations.

SHIPPING QUALITY: 1 best shipper, 10 poorest shipper.

KEEPING QUALITY. 1 best keeper, 10 poorest keeper.

COMPACTNESS OF CLUSTER: 1 most compact, 10 least compact.

The ratings given below are based on our own personal observation, and show the average merits of the different varieties as they appear when grown under the conditions of soil and climate existing in what is known as the "Grape Belt" on the south shore of Lake Erie. They are, of course, likely to vary under other and dissimilar conditions, but may be safely used as a basis of selection for varieties to plant in most localities east of the Rocky Mountains.

VARIETY.	Size of Berry.	Size of Cluster.	Quality for Table Use.	Earliness in Ripening.	Hardiness of Bud and Cane.	Health of Foliage.	Vigor of Growth.	Productiveness.	Shipping Quality.	Keeping Quality.	Compactness of Cluster.
Ives . . . . .	5	6	8	5	3	2	2	3	1	4	3
Janesville . . . . .	4	6	9	7	1	1	1	2	2	6	2
Jefferson . . . . .	4	3	1	8	6	4	7	5	1	1	2
Jessica . . . . .	8	9	2	1	3	6	7	6	5	5	5
Lady . . . . .	3	6	5	2	3	2	6	8	9	9	4
Lady Washington . . . . .	4	2	6	9	6	5	6	5	4	4	6
Lindley . . . . .	3	6	2	3	4	4	2	7	2	2	6
Lutie . . . . .	3	6	8	1	1	1	2	3	4	6	3
Massasoit . . . . .	2	5	3	3	4	6	3	8	6	5	9
Martha . . . . .	5	6	4	5	2	2	4	6	7	6	6
McPike . . . . .	1	4	6	3	2	2	2	6	9	8	5
Merrimac . . . . .	2	3	2	6	4	6	4	4	2	2	4
Missouri Reisling . . . . .	5	7	9	8	2	2	1	3	4	5	5
Moore's Early . . . . .	2	3	5	2	2	1	4	4	4	6	3
Moyer . . . . .	7	10	4	2	3	6	6	9	3	5	4
Norton . . . . .	9	6	7	9	2	1	1	4	4	4	3
Niagara . . . . .	2	1	2	5	4	5	2	1	3	4	3
Perkins . . . . .	5	5	10	4	3	2	2	3	4	7	4
Pocklington . . . . .	2	2	6	6	2	2	4	3	3	5	1
Poughkeepsie Red . . . . .	8	8	1	6	6	10	10	7	6	3	3
Prentiss . . . . .	5	6	1	8	6	7	8	5	3	2	2
Salem . . . . .	3	5	1	6	5	8	6	5	5	3	3
Telegraph . . . . .	5	5	8	5	2	2	2	2	3	6	1
Triumph . . . . .	3	1	6	10	6	3	7	5	4	5	2
Ulster Prolific . . . . .	5	7	1	6	3	4	7	4	2	2	2
Vergennes . . . . .	3	4	1	6	4	5	3	4	1	1	3
Victoria . . . . .	3	4	3	5	2	2	5	6	7	5	4
Wilder . . . . .	2	3	2	6	4	6	4	4	2	2	4
Worden . . . . .	2+	2	3	3	2	2	2	2	7	7	4
Woodruff Red . . . . .	3-	4	8	6	2	1	2	4	7	7	2
Wyoming Red . . . . .	6	7	7	3	2	3	2	5	1	4	5



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It has not been our custom to enter large exhibits in competition for prizes at the national and state exhibitions, yet we have been awarded.

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by the AMERICAN POMOLOGICAL SOCIETY, for the "largest and best collection of native Grapes," at Boston, Massachusetts, 1881.

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